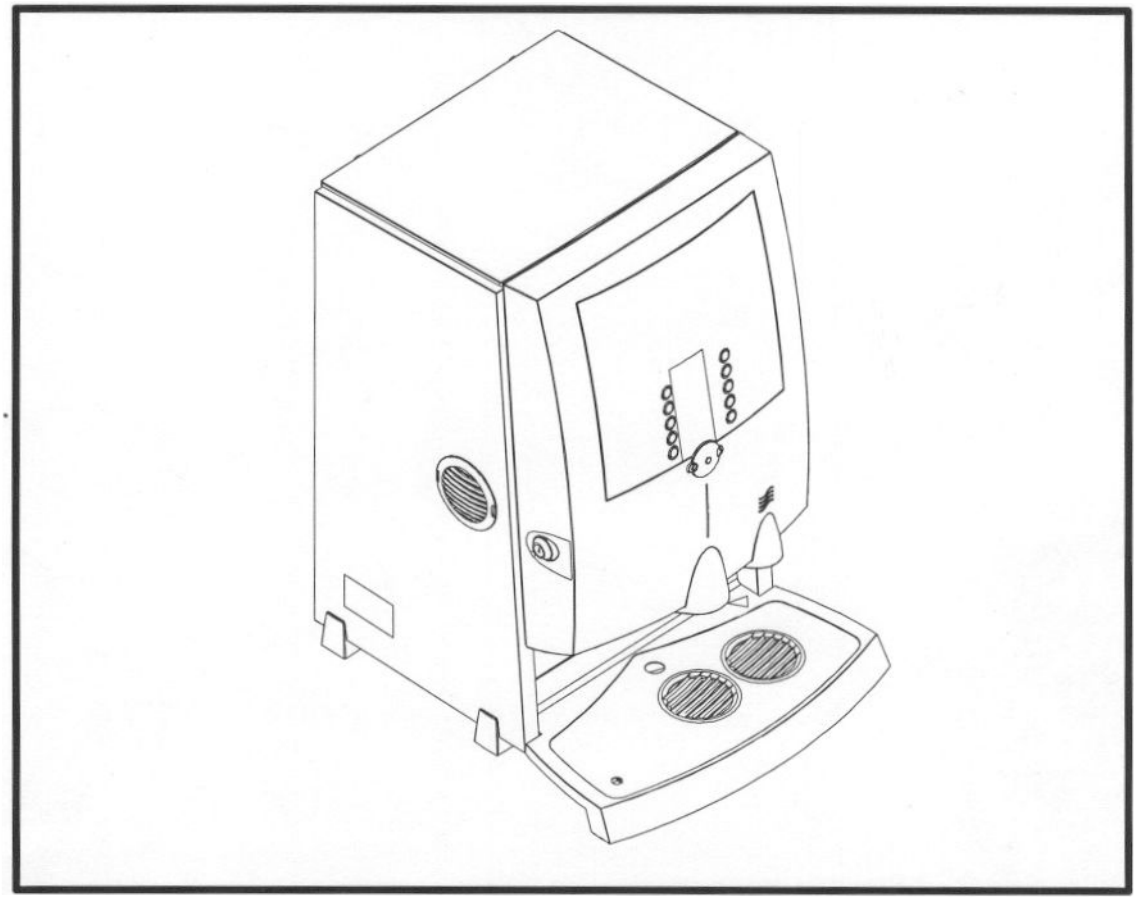

700.703.M04

Service manual

Bolero XL (BIr42–001)

Bravilor Ltd.
Unit 15, Cordwallis Park
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Maidenhead, Berkshire SL6 7BU

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The information contained in this document is based on general data concerning the construction, materials characteristics and working methods known to us at the time of publication and therefore we reserve the right to make changes without notice. For this reason the instructions contained in this document should be treated as a guide to the installation, maintenance and repair, of the machine indicated on the front cover.

This document applies to the standard version of this machine. The manufacturer therefore accepts no liability for any damage arising from specifications that deviate from the standard version of the machine as delivered to you.

Every possible care has been taken in the production of this document, but the manufacturer accepts no liability for any errors in this document or for any consequences arising therefrom.

TAKE THE TIME TO CAREFULLY READ THIS DOCUMENT BEFORE INSTALLING, MAINTAINING AND REPAIRING THE MACHINE.

DURING READING KEEP THE FOLD–OUT OPEN.

ALWAYS KEEP THIS DOCUMENT NEAR THE MACHINE.

PREFACE

Using this document

This document is intended to provide instructions for to safely install, maintain the machine.
The words "left", "right", "front" and "back" are used in this document to indicate a particular part of the machine. The point of departure here is the position of the user standing at the operating side.
The position numbers 1.–23. used in this document refer to the figures in the fold–out. On this same sheet the compositions 17. and 22. are specified in more detail. The further elaborated compositions 4. and 18. are dealt with in fig.2 and 3 respectively.

Icons and symbols

To the **machine** the following safety icons and symbols are applied.

WARNING
△ Risk of electric shock.

WARNING
△ Procedures that can result in serious damage to the machine or in physical injury if they are not carried out with due care.

In this **document** the following icons and symbols can be found:

TIP
– Hint, suggestion or advice to carry out certain tasks more easily or neatly.

CAUTION!
– Procedures that can result in damage to the machine, the surrounding area or the environment if they are not carried out with due care.

WARNING
△ Procedures that can result in serious damage to the machine or in physical injury if they are not carried out with due care.

Related documents

The following related documents are available:
– Supplementary sheet with factory settings : 700.403.311

Document code

Document codes consist of two fields:
– Field 1: document number
– Field 2: revision date (if required followed by the revision number)

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Service and technical support

Please contact our Technical Support***After Sales Support*** department for information concerning the specific setting, maintenance or service activities that fall outside the scope of this document. He will always be happy to help you. When doing this, always ensure that you have the following details at hand:

- Model code
- Type number
- Serial number

These data can be found on the identification plate (fig.1).

Guarantee conditions

The guarantee conditions applicable to this machine form part of the terms of delivery.

Identification of the machine

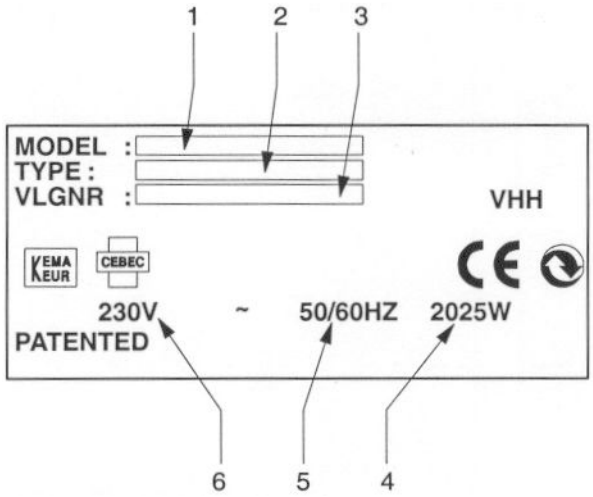

Fig. 1 Identification plate

1. Model code
2. Type number
3. Serial number
4. Output capacity
5. Frequency
6. Supply voltage

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Table of contents

Preface I

Using this document I

Icons and symbols I

Related documents I

Document code I

Service and technical support II

Guarantee conditions II

Identification of the machine II

Safety instructions and danger warnings VIII

General VIII

Service Manual VIII

Icons and instructions on the machine (if present) VIII

Maintenance technicians VIII

Technical specifications VIII

Modifications VIII

Installation IX

Use IX

Service, maintenance and repairs IX

Safety devices present X

Machines and the environment X

Packaging material X

Disposal of the machine X

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BRAVILOR® BONAMAT

Table of contents

1. Introduction **1**
1.1 General description **1**
1.2 Main components **1**
1.2.1 Outside 1
1.2.2 Inside 1
2. Technical data **2**
2.1 General **2**
2.2 Dimensions **2**
2.3 Electrical system **2**
2.4 Water system **2**
2.5 Capacity **2**
2.6 Environmental conditions **2**
2.7 Recommended descaling materials **2**
2.8 Type subjects **2**
3. Installation **3**
3.1 Unpacking **3**
3.2 Installation **3**
3.3 Initial use **4**
3.3.1 Drink system 4
3.3.2 Hot water system 4
4. Operation **5**
4.1 Controls **5**
4.1.1 Operating panel front 5
4.1.1.1 Display 5
4.1.1.2 Buttons and keys 5
4.1.2 Operating panel inside 5
4.1.2.1 Electronic control 5
4.1.2.2 Keys on the electronic control 5
4.2 Daily use **6**
4.2.1 Tap cup 6
4.2.2 Tapping mug, half a jug or whole jug 6
4.2.3 Indicator 'drip–tray full' 6
4.2.4 Raising the machine 6
5. Maintenance by users with limited authority **7**
5.1 Daily **7**
5.1.1 General 7
5.1.2 Checking the supply in the ingredients container 7
5.1.3 Cleaning 7
5.1.3.1 Rinsing programme 7
5.1.3.2 Cleaning the mixing system 8
5.2 Weekly **8**
5.2.1 General 8
5.2.2 Cleaning outside 8
5.2.3 Cleaning the mixer and the supporting plate 8
5.2.4 Cleaning ingredients container 9

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Table of contents

6. Use of the programming unit 10
6.1 Reading out the counter contents or re–setting the counter 10
6.1.1 Reading counter positions of tapped drinks 10
6.1.2 Reading counter positions per drink 10
6.1.3 Resetting the counter positions to zero 10
6.2 Setting possibilities 10
6.2.1 Setting the amount of water per drink 10
6.2.2 Switching on or off the tapping possibilities 'mug, half a jug or whole jug' 11
6.2.2.1 Switching off 11
6.2.2.2 Switching on 11
6.2.3 Setting strongness of drink 12
6.2.4 Setting the hot water temperature 12
6.2.5 Setting descaling signal 13
7. Maintenance by authorized users 14
7.1 Descaler 14
7.2 Cleaning the exhaust fans 15
8. Operating principle 16
8.1 Operation general 17
8.2 Operating system 17
8.3 Water system 17
8.3.1 Protection 17
8.3.1.1 Boiling protection 17
8.3.1.2 Overflow protection 17
8.3.1.3 Boiling dry protection 18
8.4 Dosing 18
8.5 Water selector 18
8.6 Mixing system 19
8.6.1 Ingredient container 19
8.6.2 Mixing unit 19
9. Maintenance by service technicians 20
9.1 Hygiene 20
9.2 Preventive maintenance general 20
9.2.1 Outside 20
9.2.2 Interior 20
9.2.3 Water system 20
9.3 Six–monthly maintenance 20
10. Exploded views Bolero XL 21
10.1 Door and body 21
10.2 Electrical parts 22
10.3 Mixing system 23
10.4 Water system 24
10.5 Water selector 25
11. Electric diagrams 26
11.1 Electric diagram Bolero XL (STD) 26
11.2 Electric diagram Bolero XL (IRL/GB) 27

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BRAVILOR® BONAMAT

Table of contents

12. Repair work 28
12.1 Operating system 28
12.1.1 Exchanging the keyboard print 28
12.2 Water system 28
12.2.1 Draining of the water system 28
12.2.2 Exchanging the measuring basin 28
12.2.3 Exchanging the flow boiler 29
12.2.4 Exchanging the NTC resistor 29
12.2.5 Siphoning basin / water selector 29
12.2.5.1 Exchanging the siphoning basin / water selector 29
12.2.5.2 Descaling of the water selector 30
12.2.6 Exchanging the water selector motor 30
12.2.7 Exchanging the light sensor 31
12.2.8 Exchanging the connecting wire to the light sensor 31
12.3 Mixing system 32
12.3.1 Exchanging the ingredient container motors 32
12.3.1.1 Exchanging motor 1 32
12.3.1.2 Exchanging motor 2 or 3 32
12.3.1.3 Exchanging motor 4 33
12.3.2 Exchanging the mixing unit motor 33
12.4 Miscellaneous components 34
12.4.1 Exchanging the transformer 34
12.4.2 Exchanging the solid state relay 34
12.4.3 Exchanging the exhaust fan motor 34
13. Correcting malfunctions 35
13.1 Malfunctioning analysis general 35
13.2 Display messages and their meanings 36
14. Description spare parts 37
15. Special codes 40
15.1 Resetting the daycounters to zero 40
15.2 Resetting the total counters to zero 40
15.3 Interrupt the descaling programm 40
16. Consumable items and accessories 41
16.1 Recommended consumable items 41
16.2 Accessories 41
16.2.1 Raising feet 41
17. Modifications 42
17.1 Assembly of the water selector bracket 42
17.2 Condens reservoir and **outlet** 43

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Table of figures

Fig. 1 Identification plate II
Fig. 2 Operating panel front 5
Fig. 3 Operating panel inside 5
Fig. 4 Flushing programme 7
Fig. 5 Mounting the mixer 8
Fig. 6 Counter positions 10
Fig. 7 Initial situation programming 11
Fig. 8 Setting the amount of drink 11
Fig. 9 Initial situation programming 12
Fig. 10 Strongness drink 12
Fig. 11 Temperature setting 12
Fig. 12 Descaling signal 13
Fig. 13 Descaling signal 14
Fig. 14 Descaling programme 14
Fig. 15 Removing the fan grille 15
Fig. 16 Removing the fan blade 15
Fig. 17 Operating principle water system 16
Fig. 18 Water selector 18
Fig. 19 Raising foot 41

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Safety instructions and danger warnings

General

The manufacturer accepts no liability whatsoever for damage or injury resulting from a failure to (strictly) observe the safety instructions contained in this document or resulting from negligence during the installation, maintenance or repair of the machine specified on the front cover of this document or of any related accessories.
Additional safety instructions may be required, depending on the specific working conditions required for the accessories used. Please contact the After Sales Support department if you think there may be any potential danger during installation, maintenance or repair of the machine.

Service Manual

- Each person working with the machine should know the contents of this document and carefully follow the instructions contained. The management must instruct the personnel on the basis of this document and take all the instructions and recommendations into account.
- Never alter the order in which the actions are to be done, and strictly follow the instructions set out in these manuals.
- Always keep this document in a safe place.

Icons and instructions on the machine (if present)

- Icons, warnings and instructions attached to the machine form part of the safety provisions. They must not be covered or removed and they must be present and remain legible throughout the life of the machine. Any icon, warning or instruction that becomes illegible must be repaired or replaced immediately.

Maintenance technicians

- Repairs to the machine, as well as installation and maintenance activities denoted as such, may only be carried out by properly trained and qualified maintenance technicians. They are at all times fully responsible for observing the local safety instructions and regulations when carrying out their maintenance duties.

Technical specifications

The specifications given in this document may not be modified.

Modifications

Modification of (parts of) the machine is not allowed.

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Installation

- The maximum acceptable ambient temperature with which a good operation can be guaranteed is 40°C.
- Consider damage caused by freezing. Never place the machine in rooms in which the temperature can drop below 0°C. After all, with normal use there will always be water in the machine.
- Do not turn over the machine, move it upright.
- Never install the machine in places where water is sprayed or sprinkled.
- Never install the machine in front of entrances, exits or passageways intended for emergency services.
- Place the machine on a sufficiently solid, flat surface close to a water connection, water discharge and an earthed electrical power outlet.
- Connect the machine to the electrical supply in such a way that the power can easily be disconnected.
- Leave sufficient space at the back and front of the machine for maintenance and repair purposes.
- Leave a space of at least 5 cm at the left and right sides of the machine for ventilation.
- Connect the machine to a readily accessible, manually operated water tap, so that the water supply can easily be turned off.
- Always observe local rules and standards when installing this machine.

Use

- Inspect the machine before use and check for damages.
- Protect the machine against water and moisture. Do not wet the machine by spraying and never submerge the machine in water.
- Keep the operating controls free from dirt and grease.
- Note that during use some parts of the machine become very hot.
- Disconnect the electricity grid and the water supply when the machine will not be used for a longer period. Clean the machine following the instructions in chapter 5. Make sure that no ingredients are left in the ingredient containers. Discharge the water (chapter 7.).
- Components that need lubrication and come into contact with the drink may only be lubricated with silicone grease suitable for food products.

Service, maintenance and repairs

TIP

- **Repair activities** may only be carried out by qualified maintenance technicians. Also, a distinction is made in this document between the following **maintenance activities**.
  A. maintenance activities that may be carried out by the daily user;
  B. maintenance activities that may only be carried out by specially trained users with extended qualifications;
  C. maintenance activities that may only be carried out by authorised service technicians.
- If the mains lead is visibly damaged, it has to be replaced by a qualified service technician.
- Observe the given maintenance intervals. Overdue maintenance can lead to high repair costs and may cause guarantee claims to become invalid.
- Do not carry out any maintenance or repair activities concerning the machine before having it protected against unintentional coming into operation. In such cases disconnect the electricity grid.
- Avoid contact with moving parts.
- Never leave the machine during maintenance activities.
- Only use tools, parts, materials, lubricants and service techniques that are approved by the manufacturer. Never use worn tools and do not leave tools in or around the machine.
- For cleaning the machine only use descaler recommended by the manufacturer.
- Always wear suitable facial protection and gloves while working with descaling materials. Wash your hands after using these materials.

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- Prevent damage of the machine caused by spilled descaler solution. Remove spilled solution as quickly as possible and follow the previously mentioned safety instructions.
- Safety provisions that were removed for the purpose of service, maintenance or repair, have to be reinstalled and checked for correct functioning immediately after these activities have been carried out.

Safety devices present

The machine is default provided with the following safety devices:

- Using the ON/OFF–switch the machine is switched on or off. After switching off there is still some residual voltage in the electrical system. Remove the plug from the wall outlet in order to take away this residual voltage.
- Electrical fuse of electronic components that is activated as soon as the power drop exceeds the allowed maximum value due to a power failure.
- Thermal safety device that interrupts the power when the water temperature in the boiler becomes too high.
- Boiling protection that interrupts the power when the boiler temperature becomes too high.
- Overflow protection that prevents the machine from taking in more water than allowed.
- Emergency stop to interrupt a selection of the amount of fluid (cup, half a can or whole can). The cycle started last is finished.
- Drip–tray with float indication and discharge possibilities to prevent trouble caused by spilled drink.

Machines and the environment

Packaging material

The main components of the packaging material for transport and protection of the machine are the following:

- Corrugated board
- Polystyrene elements

Generally, the packaging material can be returned through your dealer after installation of the machine. If this is not be possible, ask your local authority refuse department how you can dispose of the materials.

Disposal of the machine

Machines that you wish to dispose of can usually after consultation be returned to your dealer. If this is not possible, inquire with your local authority about the possibilities for re–use or environmentally–friendly processing of the materials. All plastic parts have been clearly coded for this purpose. The printed–circuit board in the machine and the components connected to this should be consigned to electrical or electronic refuse.

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1. INTRODUCTION

1.1 General description

This is a hot drinks machine designed for serving various hot drinks and hot water. The functions of the machine are fully computer–controlled. The personnel responsible for the operation can change the factory settings in the programmable control. Once programmed and set conform the specific wishes and requirements, the machine can be easily operated by the consumer through the operating panel (with display) at the front.

1.2 Main components

The machine consists of the following main components (see the fold out):

1.2.1 Outside

1. Lid
2. Door
3. Window + text plate
4. Operating panel front
5. Hot water outlet
6. Drink outlet
7. Drip–tray plate
8. Drip–tray
9. Indicator 'drip–tray full'
10. Foot (4x)
11. Lock
12. Identification plate
13. Water connection
14. Ventilation grille
15. Mains cable

1.2.2 Inside

16. ON/OFF switch
17. Ingredient containers 1 – 4
    - 17.1 Lid
    - 17.2 Ingredients container
    - 17.3 Outlet (discharge opening)
    - 17.4 Fixing cam
    - 17.5 Worm (plastic) or spiral (metal)
    - 17.6 Drive clutch
    - 17.7 Agitator
18. Operating panel inside
19. Drink outlet
20. Fixing hole for drip tray
21. Drain hose
22. Mixing unit (2x)
    - 22.1 Exhaust hood
    - 22.2 Mixing basin
    - 22.3 Outlet piece
    - 22.4 Drink outlet hose
    - 22.5 Mixing room
    - 22.6 Mixer
    - 22.7 Supporting plate
23. Pouring opening descaler

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2. TECHNICAL DATA

2.1 General

Model	: Blr42–001
Weight (empty)	: 14 kg

2.2 Dimensions

- See the fold out.

2.3 Electrical system

- See the identification plate for the correct values.

2.4 Water system

Water hardness	: min. 5 °dH
Min. water pressure (supply)	: 100 kPa (1 bar)
Max. water pressure (supply)	: 1000 kPa (10 bar)
Flow–rate	: 2 l/min
Conductivity	: ⩾35 µ Siemens/cm
Boiler capacity	: 1 liter
Hour capacity (hot water)	: 20 liters per hour

2.5 Capacity

Start–up time	: 2 minutes
Delivery time per cup (120 ml)	: 6 seconds

2.6 Environmental conditions

In view of danger of freezing the machine may never be placed in rooms where the temperature can fall below 0°C.

2.7 Recommended descaling materials

Descaler : RENEGITE

CAUTION!

– Before use first read the instructions on the packing.

See chapter 16. for ordering descaler.

2.8 Type subjects

Type number	Country code	Voltage	Rating	Electric diagram
8.762.101.100	STD=Standard	230V	2300W	700.406.582A
8.762.116.100	GB	230V	2300W	700.406.600A

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3. INSTALLATION

3.1 Unpacking

- Check whether the machine is complete. The contents of the packaging consist of:
  - 1 hot drinks machine
  - 1 drip–tray (complete with drip–tray plate)
  - 1 water connection hose
  - 1 sachet of RENEGITE descaler
  - 1 funnel (for descaling)
  - 1 scrubbing brush for cleaning the ingredients container
  - 2 door keys
  - 1 glass jug
  - supplementary sheet with factory settings
  - This manual
- Please contact your dealer if components are missing or damaged.

3.2 Installation

- Place the machine on a flat (max. 5° off plumb), sufficiently solid surface near a water connection point (and if possible a water discharge) and an electricity connection point **that is earthed.**
- Leave sufficient space for maintenance and repair purposes at the back and front of the machine.
- Leave a space of at least 5 cm at the left and right sides of the machine for ventilation.
- Connect the machine to a readily accessible manually operated water tap, so that the water supply can easily be turned off. Use the water connection hose provided for this.
- Open the tap.
- Open the door (2.) on the left side with the key.

Follow the instructions below to install another language with drink names:

- Remove the window (3.) with the name plate.
  - Press the plastic lips of the window from the inside of the machine to the outside.
  - Remove the window and the name plate.
- Place the multilingual, double–sided leaf with drink names behind the name plate. Now you can read the drink names in the required language through the openings.
- Remount the window with the name plate.
- Swing up the cover (1.) of the machine.
- Remove the cover (17.1) of the 1st ingredients container. Fill the ingredients container with the ingredient especially meant for this machine, according to table 3 on the supplementary sheet.
- Put back the cover on the ingredients container.
- Also fill the other containers with the correct ingredient, according to table 3 on the supplementary sheet.

WARNING

△ Power supply voltages vary from one country to another. Ensure that the machine is suitable for connecting to the local power supply. Details on the required supply voltage and frequency can be found on the identification plate.

- Connect the plug to the power socket.
- Switch the machine on by turning the ON/OFF switch (16.) to ON. A little red square appears on the switch. The machine starts filling up with water. On the display all fields light up for a moment).
- Close the cover (1.) and close the door (2.) with the key. When the water is hot enough, the flashing thermometer disappears.

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TIP

- It is possible to mount a discharge hose on the drip–tray. At the back of the drip–tray there is a spout. Bore a hole in this and slide the hose on.
- Hook the fixing cam of the drip tray into the fixing hole (20.).

3.3 Initial use

CAUTION!

- Inspect the machine before use and check for damages.
- Protect the machine against water and moist. Do not wet the machine by spraying and never submerge it in water.
- Keep the operating controls free from dirt and grease.
- Note that during use some parts of the machine become very hot.

At coming into operation the machine has the default factory settings. If required, these settings can be adjusted (chapter 6.).

3.3.1 Drink system

- Place an empty cup under the drink outlet (6.).
- Press the Selection button of the drink to be tested.
  - The selection is confirmed by a beep. Only the dot on the display at the selected drink remains after which the drinks flows into the cup. During the filling the cup on the display flashes.
- Throw away the content of the first two cups.
- Check for the 3rd cup whether the taste and the amount are right. If not, correct the taste and/or amount (§6.2).
- Repeat the above steps for the other drinks.

3.3.2 Hot water system

- Place an empty cup under the hot water outlet (5.).
- Press the Selection button (4.10) 'hot water'.
  - The selection made is confirmed by a beep. Only the dot on the display at the selected drink remains after which the water flows into the cup. During the filling the cup on the display flashes.

The system is now ready for use.

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4. OPERATION

4.1 Controls

The machine is provided with two operating panels, one at the front (fig.2) and one at the inside (fig.3). During normal daily use of the machine by the consumer, only the operating panel at the front is used. For programming and specific activities the operating panel at the inside is important as well.

4.1.1 Operating panel front

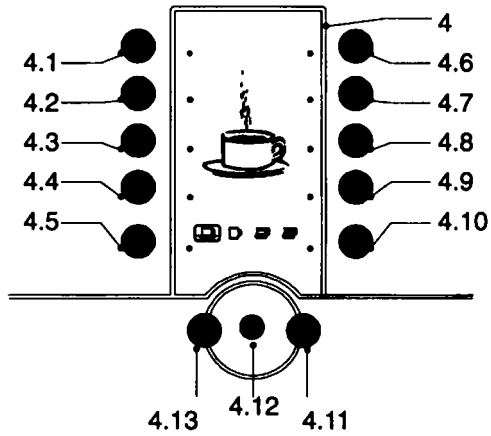

Fig. 2 Operating panel front

4.1.1.1 Display

- The display (4.) shows during normal use while programming, rinsing or descaling the machine and in the case of failures various symbols, values and messages that will be explained in this manual. Fig.2 displays the basic position (operational position).

4.1.1.2 Buttons and keys

4.1– 4.9	Selection buttons for various hot drinks
4.10	Selection button 'hot water'
4.11	Setting key [>]
4.12	Enter key (blocked during normal use of the machine)
4.13	Setting key [<]

The setting keys (4.11 and 4.13) have more than one function. During normal use of the machine these keys are only used to choose between cup, mug, half a jug and whole jug respectively).

The [Enter] key (4.12) is blocked during normal use of the machine.

4.1.2 Operating panel inside

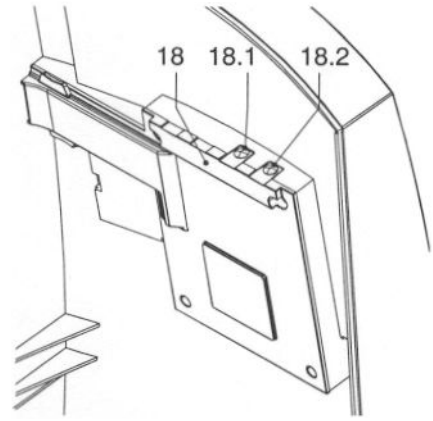

Fig. 3 Operating panel inside

4.1.2.1 Electronic control

The housing of the electronic control with operating panel (18.) of the machine is found at the inside of the door (2.). The two keys are for service and maintenance activities.

4.1.2.2 Keys on the electronic control

18.1 Key 'rinse'

18.2 Programming key

While the machine is in use, the factory default settings may appear to be incorrect or insufficient for the situation in which the machine is used. These settings can be adjusted following the instructions in §6.2.

The present chapter (4.) therefore only describes the normal dailv use of the machine.

Periodic maintenance by users with limited authority is described in Section 5.

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4.2 Daily use

- Switch the machine on with the ON/OFF switch (16.) under the cover (1.). When the machine is on there is a little red square visible on the switch. During warming up a flashing thermometer appears in the upper right corner of the display. Tapping is only possible after the thermometer has disappeared from the display.

4.2.1 Tap cup

You can only select those drinks that are indicated on the display by a black dot.

- Place an empty cup under the drink outlet (6.).
- Select a drink with one of the selection buttons (4.1 – 4.9).
  - The selection made is confirmed with a beep. On the display only the dot with the selected drink remains after which the drink flows into the cup. During the filling the cup flashes on the display.

4.2.2 Tapping mug, half a jug or whole jug

TIP

- After **5** seconds the setting automatically returns to tapping a cup.
- Tapping a half or whole jug is ***not possible for all drinks*** (this depends on the type of the machine)

- Select with the setting key (4.11 or 4.13) mug, half a jug or whole jug.

TIP

- If a thermometer appears on the display the temperature is (temporarily) too low caused by tapping too much water. The machine is blocked until the temperature is right again.

- Place an empty mug or jug under the drink outlet (6.).
- Select a drink with one of the selection buttons (4.1 – 4.9).
  - The selection made is confirmed with a beep. On the display only the dot with the selected drink remains after which the drink flows into the mug or jug. During the filling the cup flashes on the display.

TIP

- By pressing any selection button after having selected a mug, half a jug or a whole jug you prevent the machine from really executing this task. The machine is now limited to tapping just one cup.

4.2.3 Indicator 'drip–tray full'

The float indication (9.) will come up at reaching the maximum level of spilled drink. In this case, empty the drip–tray as soon as possible!

4.2.4 Raising the machine

When you use a mug or jug that **does not fit under the drink outlet** you can temporarily remove the drip–tray.

If necessary, the machine can be raised **2 cm** with a set of raising feet to increase the distance between the drink outlets and the drip–tray. Such a set can be ordered as accessory with your specialist (§16.2.1).

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5.1.3.2 Cleaning the mixing system

- Remove the drip tray (8.).
- Open the door (2.).
- Tilt the ingredient containers a bit slantingly backwards and lift them out of the machine.
- Pull the mixing basin (22.2) towards you, so that the exhaust opening of the exhaust hood (22.1) is released and subsequently move it back and forth to remove the exhaust hood.
- Pull the mixing basin (22.2) carefully loose from the water connection and remove it by moving it back and forth.
- Pull the outlet hose (22.4) carefully loose from the mixing room (22.5).
- Turn the outlet piece (with hose) (22.3) a quarter of a turn into the direction of the machine and then move it upwards, so that it is loosened from the drink outlet.
- Remove the mixing room (22.5) by turning it to the right and after that pulling it towards you.
- Repeat this procedure for the other mixing unit.
- Wash all components in hot water with a normal washing–up liquid.
- Remount all parts in reversed order.

WARNING

– Turn the outlets apart; they should almost (±1mm) touch the side of the mixing basin.

5.2 Weekly

5.2.1 General

The following activities must be carried out weekly:

5.2.2 Cleaning outside

- Remove the drip–tray (8.).
- Wash all part of the drip–tray in hot water.
- Clean the outside of the machine with a moist cloth. If necessary use a non–scratching or non–corrosive cleaning product.
- After this dry the machine with a soft cloth.
- Place the drip–tray (8.) in front of the machine again.

5.2.3 Cleaning the mixer and the supporting plate

- Carry out the first 8 steps of §5.1.3.2.
- Remove the mixer (22.6) from the mixer motor shaft by pulling it perpendicularly from the shaft.
- Remove the supporting plate (22.7) by turning it to the right and after that pulling it towards you.
- Repeat this procedure for the other mixing unit.
- Wash all components in hot water with a normal washing–up liquid.
- Remount all parts in reversed order.

TIP

– At mounting the mixer in the mixer motor shaft the dot (fig.5) must be in line with the flattened part of the mixer motor shaft.

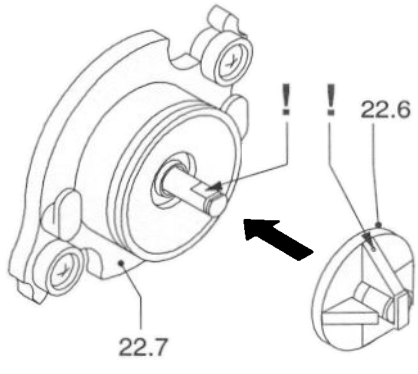

Fig. 5 Mounting the mixer

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5. MAINTENANCE BY USERS WITH LIMITED AUTHORITY

5.1 Daily

5.1.1 General

Obviously, the machine and the accessories must be carefully kept clean. Besides, it should be checked daily whether there are still sufficient ingredients in the ingredient containers.

- Remove the drip tray (8.) complete and wash all components in hot water with a normal washing–up liquid.

WARNING

Δ Take action if the descaler signal appears in the display (fig.13).

5.1.2 Checking the supply in the ingredients container

- Open the door (2.) with the supplied key.
- Lift up the cover (1.).
- Check the contents of the ingredient containers (17.).

Filling up:

- Lift the ingredients container (17.) a bit slantingly backwards out of the machine.
- Remove the cover (17.1).
- Check whether the ingredients have not congealed. If this is the case, clean the ingredients container (§5.2.4).
- Fill up the corresponding ingredient, see supplementary sheet table 3 .
- Press the cover on the container and place this back into the machine. Make sure that the drive clutch (17.6) at the back side of the container is slid over the drive shaft in the back wall and that the fixing cam (17.4) at the bottom falls into the notch of the sheet–metal work.

WARNING

Δ The ingredient containers and their places in the machine are numbered. Always stick to the order of the numbers.

TIP

– The ingredients container can also be filled without taking it out of the machine.

5.1.3 Cleaning

5.1.3.1 Rinsing programme

The machine is uitgerust met een spoelprogramma voor het reinigen van de mix–units. Aanbevolen wordt om dit programma dagelijks te gebruiken.

- Place a jug under the drink outlet (6.).
- Press key (18.1) at the inside of the door.

Fig. 4 Flushing programme

A flashing cup appears on the display to indicate that the rinsing programme is active.

- Repeat the rinsing by pressing the key (18.1) again until the water coming out of the drink outlet piece is clean.
- Close the door with the key and place the drip–tray in front of the machine again.

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5.2.4 Cleaning ingredients container

- Lift the ingredients container slantingly backwards out of the machine.
- Remove the cover (17.1).
- Shake the ingredients out of the container into a clean dry bowl.
- Take the outlet (17.3) away.
- Remove with the supplied scrubbing brush the remnants from the ingredients container, from the worm (or spiral) (17.5) and from the outlet.

TIP

- If necessary, the large nuts at the front and at the back can be loosened. The loose components can be cleaned with hot water.

WARNING

△ If you clean the ingredients container with water, make sure that all parts are very dry before you fill the ingredients container again. This prevents encrusting.

- Fill up the corresponding ingredient, see supplementary sheet table 3 .
- Press the cover (17.1) and the outlet (17.2) on the ingredients container (17.) and **on the correct place** back into the machine. Make sure that the drive clutch (17.6) at the back side slides over the drive cam in the back wall. Make sure that the fixing cam (17.4) at the bottom falls into the notch of the sheet–metal work.
- Repeat this procedure for the other ingredient containers.

TIP

- Check before using the machine again whether all parts have been mounted correctly:
  - Are the ingredient containers (17.) at the right place and is the fixing cam (17.4) at the bottom side of the notch of the sheet–metal work?
  - Have the outlet pieces (17.3) of the ingredient containers been placed correctly above the left and right mixing units?
- Reflush the mixing units (§5.1.3.1) because ingredients may have fallen into the mixing units during placing the ingredient containers.
- Close the door (2.) with the key and place the drip–tray (8.) in front of the machine again.

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6. USE OF THE PROGRAMMING UNIT

The machine is provided with a programme with which you as user can read data and set the machine in accordance with your personal requirements.

6.1 Reading out the counter contents or re–setting the counter

- Press the programming button (18.2) to start the programming.

The display alternately shows a three–figure and a six–figure number.

The three–figure number gives the total of the delivered cups, mugs and half or whole jugs **since the last resetting of the counter to zero.** The six–figure number gives the total number of cups, mugs and half or whole jugs that the machine **since coming into operation for the first time** has delivered.

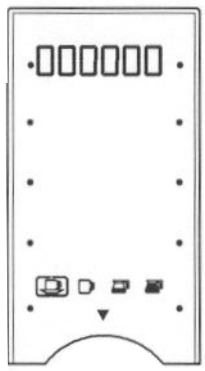

Fig. 6 Counter positions

6.1.1 Reading counter positions of tapped drinks

- Select with the setting key (4.11 or 4.13) cup, mug, half a jug or whole jug.
- Read the counter positions.

6.1.2 Reading counter positions per drink

- Select the desired drink with one of the selection buttons.
- Select with the setting key (4.11 or 4.13) cup, mug, half a jug or whole jug.
- Read the counter positions; a black dot on the display indicates the selected drink.

6.1.3 Resetting the counter positions to zero

- Select any drink with one of the selection buttons.
- Keep the button pressed down during 5 seconds.

The counter for ***all*** drinks is reset to zero for cups, mugs, half jugs and whole jugs.

TIP

– It is not possible **to reset the total counter** of the machine to zero!

- Press the programming button (18.2) to return to the base position of the display.

6.2 Setting possibilities

TIP

– All changes can be entered consecutively at once, because they succeed each other.
– The following paragraphs describe the procedures per setting possibility, i.e. not consecutively.

6.2.1 Setting the amount of water per drink

At setting the amount of water per drink it should be taken into account that the actual amount of drink **is more** than the amount of water that is set. This is because ingredients are added to the hot water. This particularly happens when tapping a **chocolate drink.**

WARNING

Δ Keep this in mind in order to prevent trouble with cups, mugs and jugs running over.

- Press the programming button (18.2) to start the programming.
- Press one time on the [Enter] key (4.12).

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Fig. 7 Initial situation ***programming***

- Press the selection button to be set.

Fig. 8 Setting the amount of drink

- Set with the setting key (4.11 or 4.13) the amount of water.

TIP

- By pressing the setting key (4.11 or 4.13) longer you quickly to through the range.
- See table 4 on the supplementary sheet for the factory settings and the (im)possibilities.
- Write your own settings with a pencil in the table.

- Press the [Enter] key (4.12) for setting the values for a **mug**.
- Press the [Enter] key (4.12) for setting the values for **half a jug.**
- Press the [Enter] key (4.12) for setting the values for a **whole jug.**
- Press the programming button (18.2) to finish the programming.

6.2.2 Switching on or off the tapping possibilities 'mug, half a jug or whole jug'

If the machine has been set to paid delivery, tapping a mug, half a jug or a whole jug is ***not*** possible.

6.2.2.1 Switching off

- Decrease the value set for 'mug' to the minimum (§6.2.1). The display shows 'OFF'. Now the tapping possibilities for a mug is switched off. When in use selecting 'mug' for the drink involved gives **no** dot on the display; this choice is not possible then.

This tapping possibility can be switched off in the same way for all drinks.

- Press the programming key (18.2) to finish the programming.

6.2.2.2 Switching on

- Increase the set value for 'mug' (§6.2.1). The display again shows the value that you are to set in ml. Now the tapping possibility for a mug is switched on.

This tapping possibility can be switched on in the same way for all drinks.

- Press the programming key (18.2) to finish the programming.

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6.2.3 Setting strongness of drink

- Press the programming key (18.2) to start the programming.
- Press one time the [Enter] key (4.12).

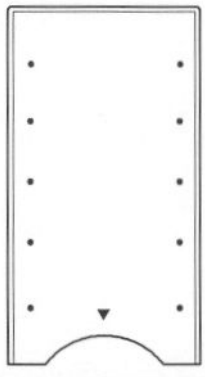

Fig. 9 Initial situation programming

- Select the drink involved.
- Press five times the [Enter] key (4.12).

Fig. 10 Strongness drink

The ingredient containers of the machine appear on the screen.

TIP

- The ingredient container that can be set flashes.

- Set with the setting key (4.11 or 4.13) the strongness.

TIP

- Write down your own settings with a pencil in the table on the supplementary sheet.

- Press several times the Enter key (4.12) to set the other ingredient containers.

The number of ingredient containers to be set depends on the selected drink, see table 4 on the supplementary sheet.

- Now set with the setting key (4.11 or 4.13) the strongness of the next ingredient container.
- Press the programming key (18.2) to finish the programming.

TIP

- The machine automatically relates the set percentage to the set amount of water.

6.2.4 Setting the hot water temperature

- Press the programming key (18.2) to start the programming.
- Press three times the [Enter] key (4.12).

Fig. 11 Temperature setting

- Set with the setting key (4.11 or 4.13) the temperature (from 80°C – 90°C).
- Press the programming key (18.2) to finish the programming.

The factory setting of the machine is 85°C.

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6.2.5 Setting descaling signal

- Press the programming key (18.2) to start the programming.
- Press four times the [Enter] key (4.12).

Fig. 12 Descaling signal

- Set with the setting key (4.11 or 4.13) the required value, taking the water hardness into account (table 1).
- Press the programming key (18.2) to finish the programming.

Position	Signal after number of liters	Water hardness n		
		°dH	°TH	Description
OFF	No signal	-	-	-
1	± 250 liter	18-30	32-55	hard
2	± 500 liter	12-18	22-32	rather hard
3	± 1000 liter	8-12	15-22	average
4	± 1500 liter	4- 8	7-15	soft
5	± 2000 liter	0- 4	0- 7	very soft
4,0 °dH = 0,714 mmol/liter				
5,6 °dH = 1,000 mmol/liter				
8,0 °dH = 1,429 mmol/liter				
12,0 °dH = 2,143 mmol/liter				
18,0 °dH = 3,214 mmol/liter				
30,0 °dH = 5,357 mmol/liter				
10 °TH = 10 mmol/liter				

Table 1 Settings water hardness

TIP

- Inquire with your local waterworks about the hardness of the water supplied and always choose the correct setting. The default setting of the machine is position 3.

The machine automatically records the number of liters of water after each descaling cycle. When the settings are incorrect and/or the descaling sign on the display is ignored, the guarantee is no longer valid!

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7. MAINTENANCE BY AUTHORIZED USERS

During use calcification takes place in the machine. The machine is provided with a warning system that indicates when the machine must be descaled.

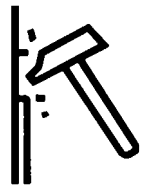

Fig. 13 Descaling signal

When this signal appears on the display the machine **needs** descaling.

WARNING

Δ Do **not** ignore this message, otherwise the guarantee will be no longer valid!

TIP

– Regular descaling prolongs the life of your machine!

7.1 Descaler

WARNING

Δ During descaling wear gloves and facial protection and do not leave the machine during the process.

TIP

– Make sure there is a large receiving bin (min. capacity 7 l) for the liquid that is drained.

- Remove the drip–tray (8.).
- Open the door (2.).
- Lift the cover (1.).
- Remove all ingredient containers (17.) from the machine.
- Press the programming key (18.2).
- Press two times the [Enter] key (4.12).

TIP

– If you do not want to descale, within **10 seconds** press the key (4.13) to stop the descaling programme.

- Press the setting key (4.11).

Fig. 14 Descaling programme

The descaling symbol appears on the display. The figure in the upper right corner indicates the number of liters of water that has been used since the last descaling process.

WARNING

Δ The water coming out of the drain hose can be very hot.

- Pull the drain hose (21.) about 5 cm out of the machine.
- Place a receiving bin with a capacity of at least 7 litres under the drain hose.

TIP

– Slide the machine to the rim of the blade it stands on, so that a receiving bin can be placed under the drain hose.

- Remove the plug from the drain hose and let the water flow into the receiving bin.
- Place the plug on the drain hose again.
- Place the receiving bin under **both** outlets (5. and 6.).

TIP

– If the descaling has started in the meantime, then push **longer than 10 seconds** on the setting key (4.13) to stop the descaling programme.

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WARNING

Δ The descaling solution will flow out of the hot water outlet as well as out of both drink outlets.

- Solve 100 gr. **Renegite** in $^1/_2$ liter of hot water.
- Remove the plug from the pouring opening (23.).
- Pour the descaling solution in the opening with the help of the delivered funnel.

WARNING

Δ Stop the descaling programme **never** when you have already poured descaler into the machine!

- Close the pouring opening again with the plug.
- Press the setting key (4.11) to start the descaling.

The machine is now flushed with a mixture of water and descaler. **This takes about 15 minutes.**

At the end of the descaling programme the hammer disappears from the display.

- Remove the plug from the drain hose (21.) and let the water flow into the litter bin.
- Place the plug back on the drain hose.
- Push the drain hose back again.
- Place the ingredient containers (17.) back into their places.
- Close the cover (1.).
- Press the programming key (18.2).
- Close the door (2.).
- Put the drip–tray (8.) back.

Now the machine will be filled with water again and the heating is started.

The descaling signal has been automatically reset to zero.

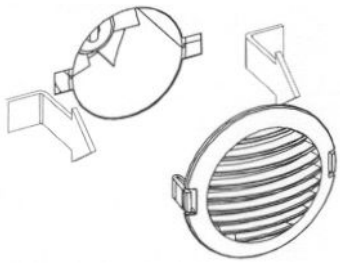

Fig. 15 Removing the fan grille

7.2 Cleaning the exhaust fans

The machine is provided with two exhaust fans to exhaust the water vapour above the mixing units. This prevents the inside of the machine and the ingredients in the containers from getting moist.

CAUTION

– The exhaust fan works continually when the machine has been switched on with the ON/OFF switch (16.).

TIP

– Clean **twice a year** the blades of the exhaust fan to be sure of a good exhaustion.

- Switch the machine **off** with the ON/OFF switch (16.). The switch no longer shows a little red square.
- Remove the fan grille (fig.15) by pressing the two lips towards each other and pulling the grille out of the machine.
- Carefully pull the blade wheel from the shaft (fig.16).
- Clean the grille and the blade wheel in hot water with a normal washing–up liquid.
- Thoroughly clean the fan housing with a brush.
- Carefully push the blade wheel back onto the fan shaft.
- Replace the grille.
- In the same way clean the grille and the blade wheel at the other side of the machine.

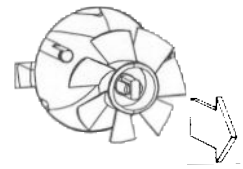

Fig. 16 Removing the fan blade

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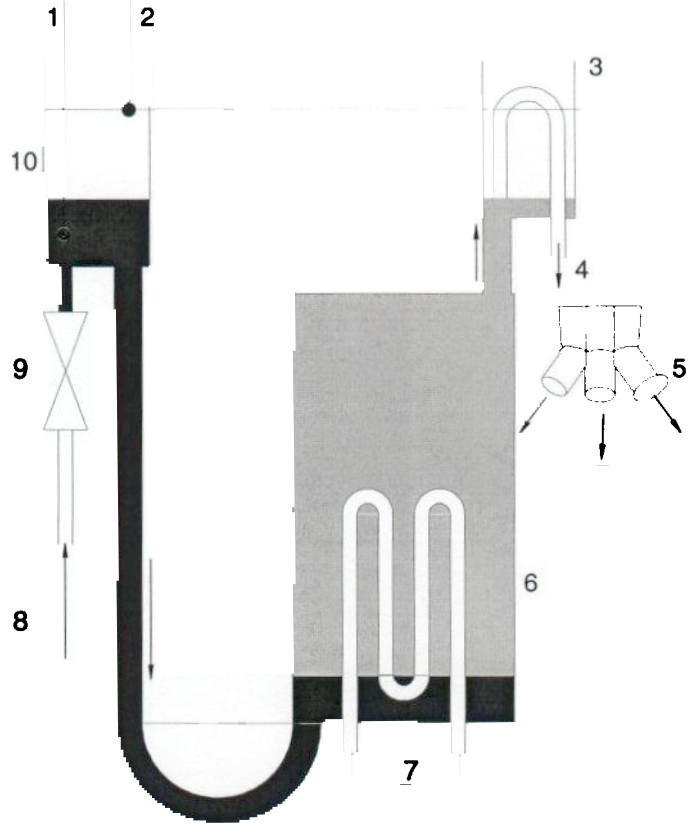
8. OPERATING PRINCIPLE

The machine operates according to a siphoning system, patented by Bravilor Bonamat®. This system has the following advantages:

1. The magnetic valve for dosing of the water is located in the cold–water circuit. This largely prevents the main cause for breakdowns in machines – i.e. the formation of scale on the magnetic valve – which is reduced to a minimum.
2. Likewise, the electrodes that regulate the water level are located in the cold–water circuit, thereby reducing the formation of scale to a minimum here as well.
3. The amount of hot water tapped per cycle does not vary. It is not influenced by a standstill or by the temperature of the water.
4. The construction allows for a very compact form.

The position numbers 1.– 10., used in this chapter, refer to Figure 17 .



Cold water

Hot water

1. Minimum level electrode
2. Time indicator level
3. Siphoning basin
4. Hot water
5. Water selector
6. Flow boiler
7. Heating element
8. Cold–water supply
9. Magnetic valve
10. Measuring basin

Fig. 17 Operating principle water system

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8.1 Operation general

After connecting and switching on of the machine, the operating system will first initialise itself. This will take approximately 2 seconds. If necessary, the water system will be filled with water. Subsequently, the water will be heated to the preset temperature. As soon as a beverage is chosen by pressing a key, the water system is activated first. Then the mixing system is activated, whereby an ingredient is mixed with the water.

TIP

- Depending on the beverage selected, ingredients from different ingredient containers may flow out.

8.2 Operating system

The operating system, consisting of a print, both control panels, and a number of electrodes, operate the water system and the mixing system.

8.3 Water system

The water system, which consists of a magnetic valve (9.), a measuring basin (10.), a flow boiler (6.) containing a heating element (7.), a siphoning basin (3.) and a number of hoses, ensures a correct dosing of hot water.

In the flow boiler (6.), a heating element (7.) is located. Two clicksons and an NTC resistor are installed on the flow boiler. This assembly ensures that the water will remain at the preset temperature.

If the flow boiler has been empty, for example after installation or after a repair, the heating element will remain switched on until the water has reached a temperature of 10°C below the set temperature. The residual heat of the heating element will make sure that the temperature of the water will rise some more. After a few seconds, the heating element will alternatively be switched on and off until the set temperature is reached.

The temperature of the water is measured by an temperature sensor, which is mounted on the outside of the flow boiler. The NTC resistor, together with the solid state relay, ensures correct switching on and off of the heating element.

Depending on the difference between the temperature measured and the set temperature, the thermostat will make sure that the heating element is switched on for a certain length of time. The period the heating element is switched on runs proportionally and will be at maximum (100%) value if the temperature measured is more than 10°C below the set temperature.

8.3.1 Protection

The machine has the following protection levels:

1. Boiling protection
2. Overflow protection
3. Boiling dry protection

8.3.1.1 Boiling protection

The boiling protection, which consists of a mechanical relay and the temperature sensor, protects the machine from boiling.

The solid state relay is connected in series with a mechanical relay. This mechanical relay is switched *on* when the machine is switched on and contains water, and *off* when the machine is switched off. The solid state relay is switched on and off frequently to keep the water hot, while the mechanical relay is switched on infrequently.

If the solid state relay breaks down, a direct connection will be made, as a result of which the heating element will be switched on constantly. The temperature sensor constantly measures the temperature of the water.

At the moment the water reaches a certain temperature, the operating system will switch off the mechanical relay, thereby switching off the heating element as well. This prevents the water from boiling.

In table 2 you can see when the mechanical relay will be switched off.

Settemperature of the water	**Temperature at which the mechanical relay will be switched off**
90 °C	97 °C
89 °C	96 °C
88 °C	95 °C

Table 2 Switching–off temperature mechanical relay

8.3.1.2 Overflow protection

If the magnetic valve should open up, whereas no beverage selection key has been pressed, a timer will start running for a maximum of 15 minutes. If the magnetic valve should open up again within this period, the machine will be blocked.

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During a long–term standby period, water may evaporate to the extent that the magnetic valve is opened up. Should this, however, occur twice within fifteen minutes, this indicates boiling of the water (or a burst hose in the system).

8.3.1.3 Boiling dry protection

The boiling dry protection is mounted on the outside of the flow boiler using two clicksons. These will switch off the heating element if it is heated, by a malfunction, while there is no any water in it.

8.4 Dosing

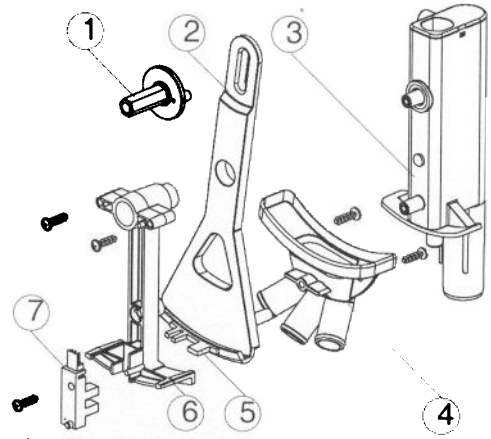
The dosing of the hot water is achieved according to the principle of communicating vessels. The measuring basin (10.) forms a communicating vessel with the siphoning basin (3.), via the hose and the flow boiler (6.).

At the moment a beverage is selected, the magnetic valve (9.) opens up. This causes the measuring basin to be filled with tap water. At the moment the water reaches the time indicator level electrode (2.), the magnetic valve is closed delayed. At that moment, the siphoning system in the siphoning basin starts operating and the hot water will be poured from the siphoning basin. This pouring out of hot water will stop as soon as the water level becomes lower than the siphon. This way, a set amount of hot water is dosed.

The amount of water to be dosed may be adjusted by leaving the magnetic valve open for a certain, adjustable length of time after the water has reached the time indicator electrode.

The expansion of the water, as a result of the heating process, within the flow boiler does not influence the amount of water dosed in any way.

8.5 Water selector



1. Positioning wheel
2. Arm
3. Siphoning basin
4. Distributor
5. Notches
6. Base
7. Light sensor

Fig. 18 Water selector

The water selector, which consists of the base (6.), an arm (2.), the distributor (4.), a motor with positioning wheel (1.) and a light sensor (7.), ensures that the hot water flows to the mixing system or to the hot water outlet. The water selector forms an entity with the siphoning basin (3.).

The distributor is installed on the arm, which is mounted on the base in such a way that it swivels. The arm is driven by a motor with the positioning wheel. The position of the arm is determined by the light sensor that is mounted on the base. The arm features notches (5.) that interrupt the light beam of the light sensor. The light sensor passes the position of the arm on to the operating system. As soon as a beverage is selected, the operating system checks the position of the arm with the distributor, by means of the light sensor, and if necessary actuates the motor with the positioning wheel to make sure the outlet of the distributor is moved to the correct position underneath the outlet of the siphoning basin.

There are three possible positions: left, middle and right.

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8.6 Mixing system

The mixing system, consisting of the ingredient container, the mixing units, and a number of motors driving the ingredient containers and the mixing units, ensures a correct dosing of the ingredients and the mixing of the ingredients with the hot water.
The moment the water reaches the time–indication level electrode, the operating system will start operating the motors of the ingredient containers and the mixing units. Depending on the beverage selected, one or more of the motors will be started up, in consecutive order. The driving of the motor for the ingredient container occurs by way of the so–called 'Pulse Width Modulation'. This means that the speed with which the motor is turning is regulated in such a way that the powder flows into the mixer at the exact same moment as the water. This ensures the flowing of powder into the mixer during the flowing of water, ensuring the emittance of a smoothly mixed beverage.

8.6.1 Ingredient container

Inside the ingredient container there is a spiral to transport the powder to the outlet. An anti–clogging mechanism ensures that the powder inside the ingredient container does not get lumpy.
At the moment the water reaches the time indicator level electrode, the operating system will operate the anti–clogging mechanism.

8.6.2 Mixing unit

The mixing unit consists of a mixing basin, the mixing chamber, the mixer, the base plate, a hose, the outlet piece, and a small exhaust fan, which ensure the mixing of the hot water with the ingredient.
The moment the water reaches the time–indication level electrode, the operating system will start operating the motors of the ingredient containers and the mixing unit. At the same time, the hot water is being siphoned. The powder from the ingredient container reaches the mixing basin at the same time as the hot water. This mix will flow into the mixing chamber. Here, the mixture is mixed thoroughly and flows from the outlet piece.
Depending on the selected beverage, the operating system will operate either of the two mixers. (During the pouring of a half/whole jug, the mixer will turn during its first cycle or the whole process, depending on the selected beverage. This prevents a large head of foam from forming on top of the beverage.)
The small exhaust fan removes the water vapour that collects over each mixing chamber. This prevents the ingredients in their containers from getting damp. The water extraction is accomplished by two fans.

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9. MAINTENANCE BY SERVICE TECHNICIANS

9.1 Hygiene

Personal hygiene must be observed during all cleaning and maintenance activities. Make sure your hands are clean during these activities. Do not smoke. Only use tools that are clean.

WARNING

Δ Improper maintenance of the machine may cause health risks. Safeguard the hygienic condition of the machine while performing maintenance activities on the machine.

9.2 Preventive maintenance general

Before starting any maintenance duties on the machine, first contact the manager in charge of the machine. The manager may be able to pass on to you any complaints by the users (e.g. taste, temperature or technical operation).
To be able to ensure a long life and correct functioning of the machine, it will have to be inspected on a regular basis. Any defect established during one of these inspections should be remedied immediately.

9.2.1 Outside

- Inspect whether the machine is clean.
- Check the connections for the water supply and the electricity supply.
- Inspect the machine for damages.
- Check the functioning of all selection keys.
- Inspect the display and make sure it is legible.
- Check the lock on the door.
- Check the functioning of the fans.
- Inspect the ventilation grilles for dirt and make sure the fan has enough room to rotate.
- Inspect whether the fans are clean. Clean, if necessary (§7.2).

9.2.2 Interior

- Inspect whether the interior is clean.
- Inspect the electronic operating unit on the inside of the door.
- Inspect the machine for loose components, hoses and cables.
- Take the ingredient containers from the machine and check the operation of the worm (plastic) and spiral (metal).
- Inspect whether the ingredient containers are clean.
- Inspect the mixing units for leaks.
- Disconnect the mixing units (§5.2.3).
- Rinse all parts in warm water to which some Cleaner is added.
- Lubricate the spindles of the mixers with a silicone grease, suitable for foodstuffs.
- Mount the mixing units.

9.2.3 Water system

- Check whether the descaling indicator appears on the display. If so, descale the machine according to the user manual.

9.3 Six–monthly maintenance

- Take the power off the machine by pulling the plug from the socket.
- Remove the back plate from the machine after unscrewing the two plate screws.
- Clean the interior of the machine, using a brush and vacuum cleaner.
- Inspect the machine for loose components, hoses and cables.
- Inspect the interior for leaks.
- Inspect the machine for damages.
- Put the back plate back on and fix it with the two plate screws.

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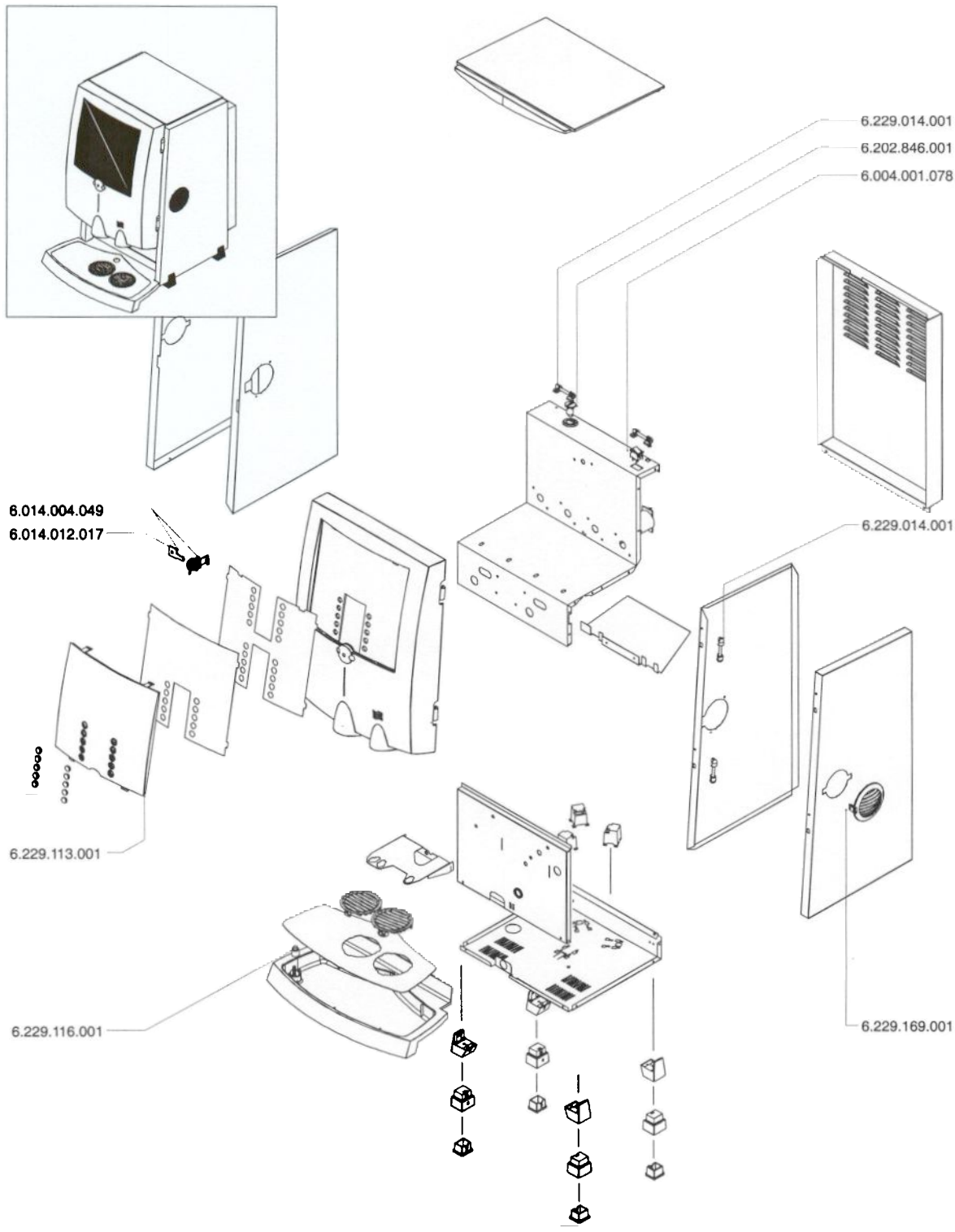
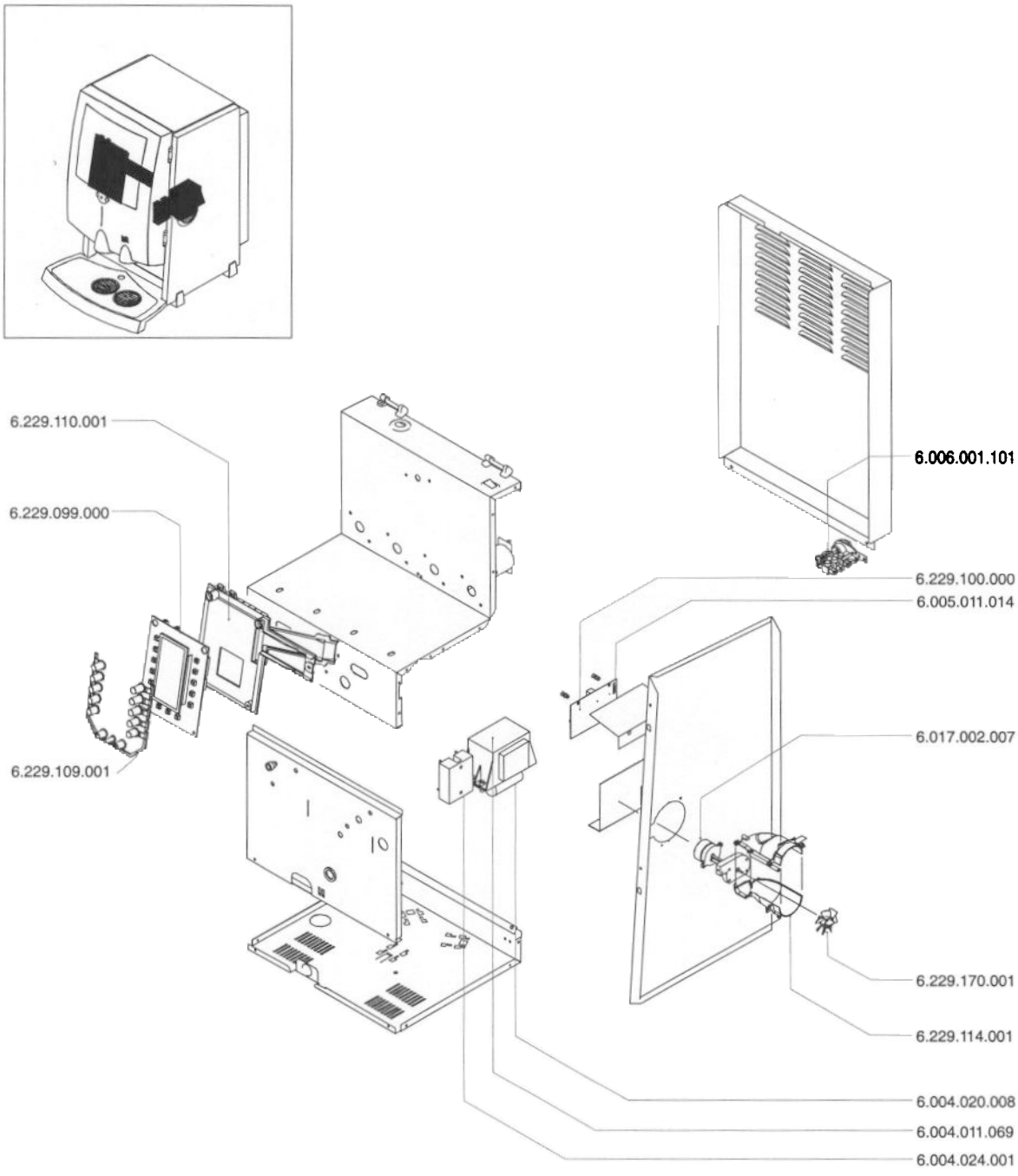
10. EXPLODED VIEWS BOLERO XL

10.1 Door and body



10.2 Electrical parts



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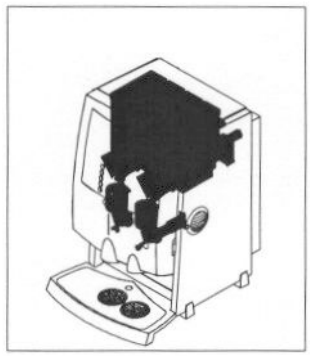
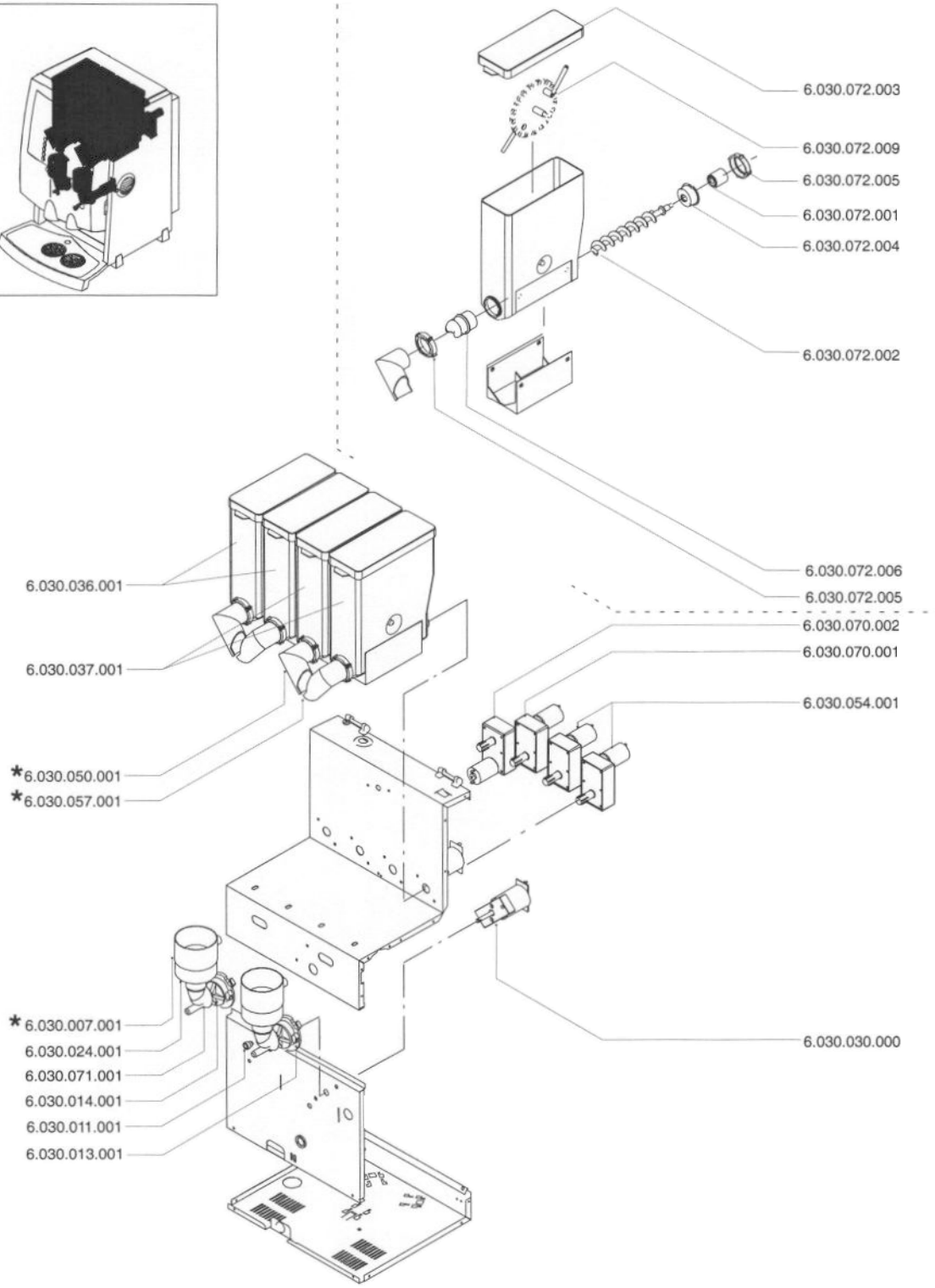
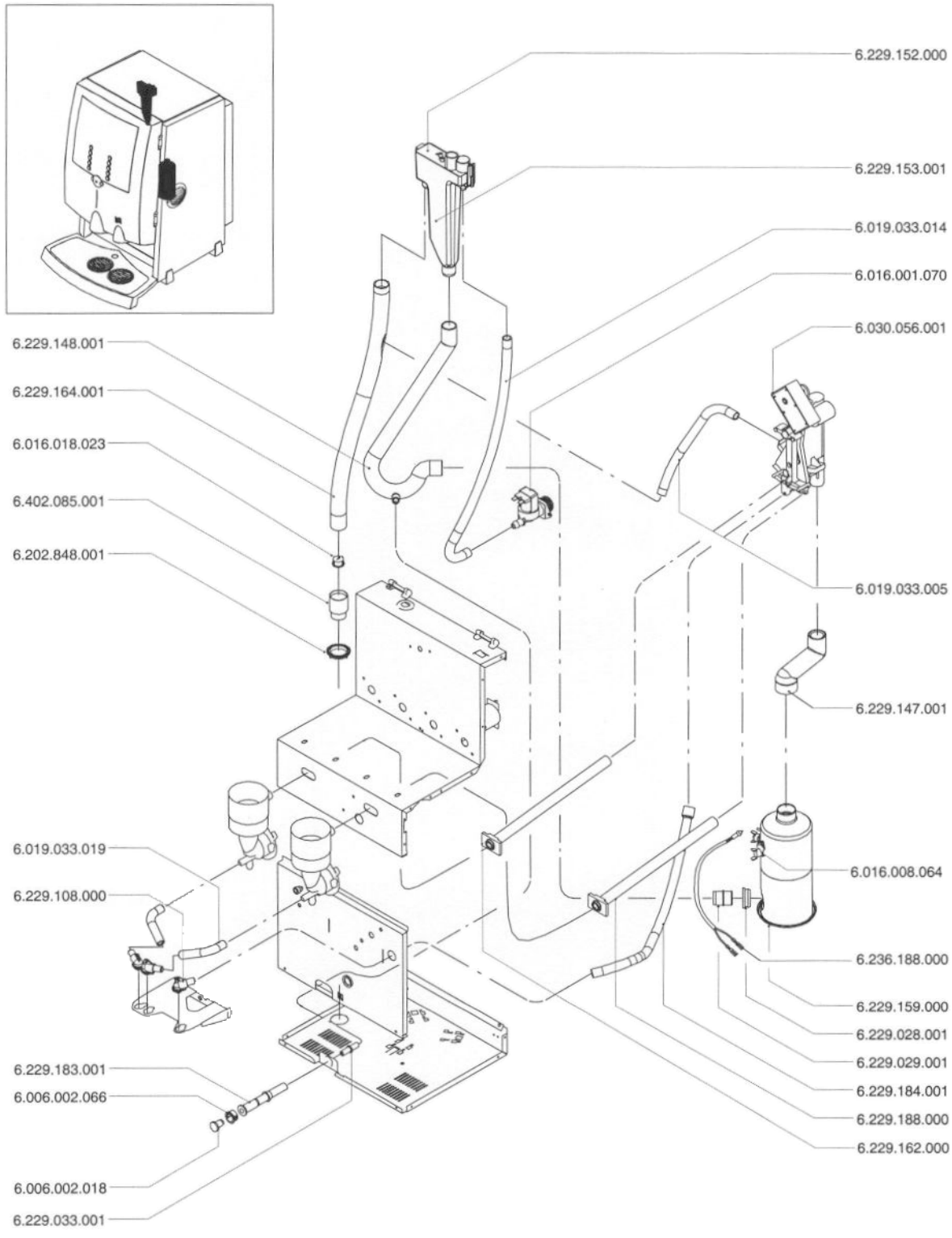
10.3 Mixing system





* See §NO TAG

10.4 Water system



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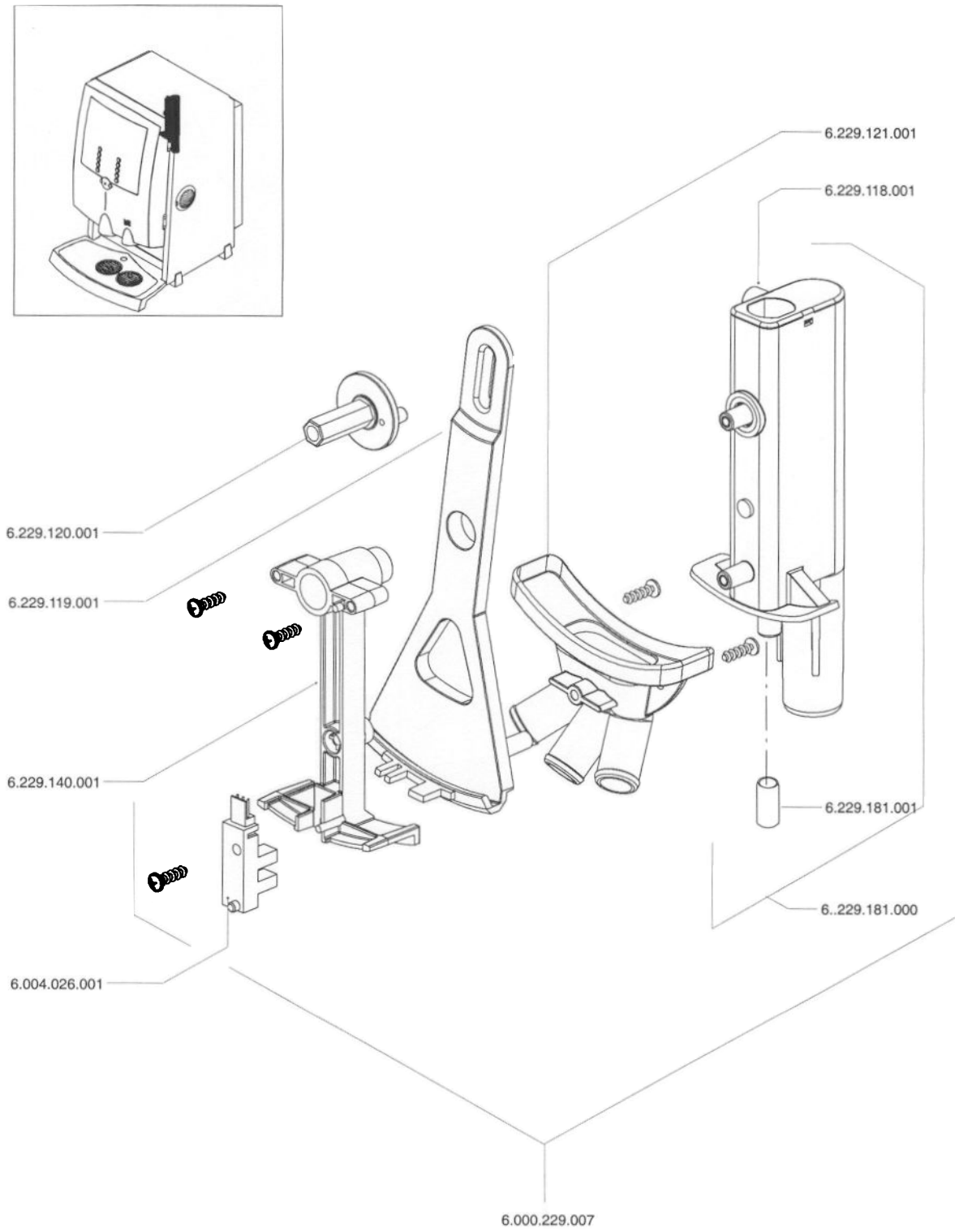
10.5 Water selector



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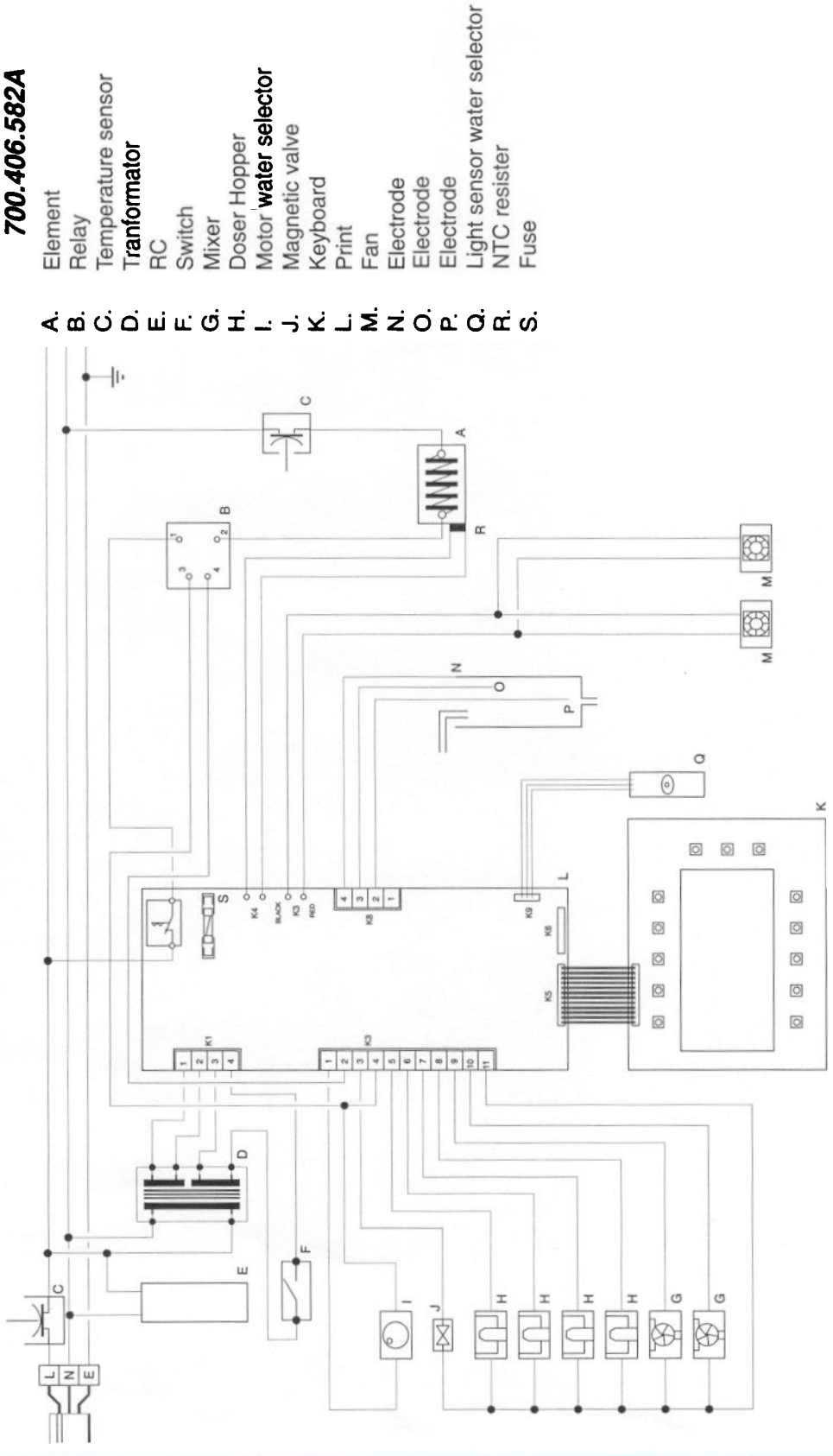
11. ELECTRIC DIAGRAMS

11.1 Electric diagram Bolero XL (STD)



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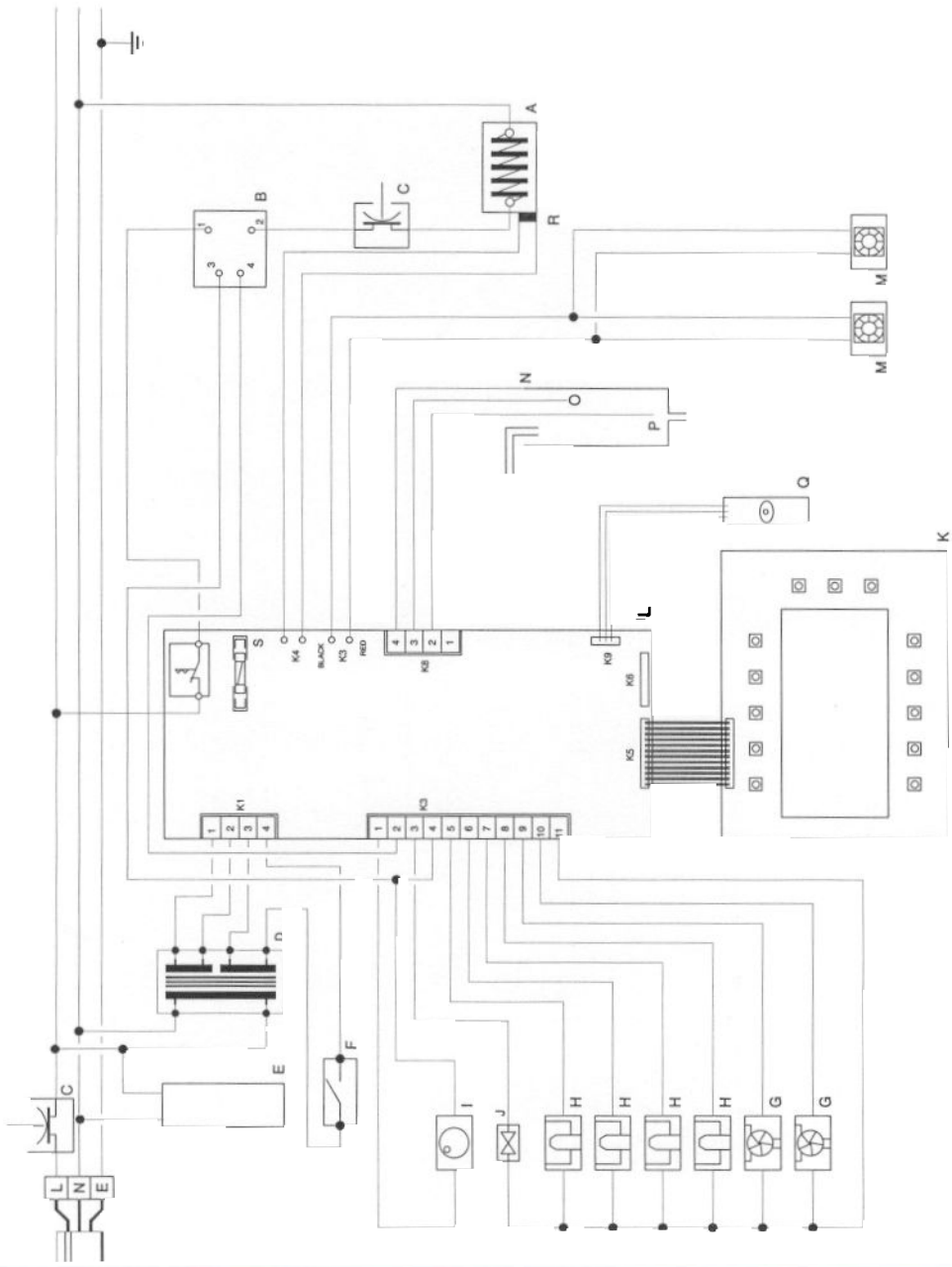
11.2 Electric diagram Bolero XL (IRL/GB)

700.406.600A

A. Element
B. Relay
C. Temperature sensor
D. Tranformator
E. RC
F. Switch
G. Mixer
H. Doser Hopper
I. Motor water selector
J. Magnetic valve
K. Keyboard
L. Print
M. Fan
N. Electrode
O. Electrode
P. Electrode
Q. Light sensor water selector
R. NTC resister
S. Fuse



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12. REPAIR WORK

WARNING

Δ ***Before*** starting any of the activities below, make sure that the voltage has been taken off the machine, by pulling out the plug.

Δ Be careful of static electricity. Wear a wrist band during the installation of the new keyboard print.

WARNING

Δ ***Before*** starting any of the activities below, make sure that the machine has cooled down sufficiently.

12.1 Operating system

12.1.1 Exchanging the keyboard print

TIP

– Programme the keyboard print according to the instructions given in the table on the insert of the user manual.

12.2 Water system

12.2.1 Draining of the water system

WARNING

Δ The water that flows out of the drain hose may be very hot.

- Switch off the machine using the ON/OFF switch.
- Remove the drip–tray and open the door.
- Pull the drain hose out of the machine for some 5 cm.
- Place a receiving bin with a capacity of at least 7 litres under the drain hose.
- Remove the plug from the drain hose and let the water flow into the receiving bin.
- Place the plug back on the drain hose.

12.2.2 Exchanging the measuring basin

TIP

– See also the exploded view §10.4.

The measuring basin is used to measure the amount of water to be dosed.

WARNING

Δ Parts of the interior of the machine may be very hot. Allow the machine to cool down sufficiently.

- Take the power off the machine by pulling the plug from the socket.
- Take the pressure off the water system by turning the tap off at the water connection point.
- Drain the water system (§12.2.1).
- Unscrew the two screws with which the back plate is fastened and remove the back plate.
- Open the door and the flap.
- Remove the plug from the pouring opening.
- Disconnect both hoses that connect to the measuring basin.
- Unscrew the screw with which the measuring basin is fastened (next to the pouring opening for descaler) and take the measuring basin from the machine.
- Disconnect the wiring.

The measuring basin is now completely disassembled and the new measuring basin may now, in reverse order, be installed.

TIP

– The connection pins of the measuring basin are coded.

- Connect the red wire to the ***H***. Connect the black wire to the ***L***. Connect the green/yellow wire to the earth connection.

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12.2.3 Exchanging the flow boiler

TIP

– See also the exploded view §10.4.

The flow boiler serves as a reservoir for hot water. It contains the heating element that heats the water.

WARNING

Δ Parts of the interior of the machine may be very hot. Allow the machine to cool down sufficiently.

- Take the power off the machine by pulling the plug from the socket.
- Take the pressure off the water system by turning the tap off at the water connection point.
- Drain the water system (§12.2.1).
- Unscrew the two screws with which the back plate is fastened and remove the back plate.
- Disconnect the NTC resistor.
- Disconnect the earth wiring.
- Disconnect the wires to both of the clicksons.
- Disconnect both hoses.
- Push the lip in the base plate down (at the backmost support block) and slide the flow boiler, together with the backmost support block, in the direction of the door, until the support block is released from the base plate.
- Take out the flow boiler, together with the support block, from the machine.
- Disconnect both wires to the heating element.

The flow boiler is completely disassembled now, and may be replaced. The new element has to be installed in the exact reversed order.

12.2.4 Exchanging the NTC resistor

TIP

– See also the exploded view §10.4.

The NTC resistor (temperature sensor) constantly monitors the temperature of the flow boiler.

WARNING

Δ Parts of the interior of the machine may be very hot. Allow the machine to cool down sufficiently.

- Take the power off the machine by pulling the plug from the socket.
- Remove the back plate from the machine after unscrewing the two plate screws.
- Disconnect both plugs that connect the wiring of the NTC resistor to the operating point.
- Unscrew the nut of the NTC resistor and remove the NTC resistor.

The NTC resistor is completely disassembled now, and may be replaced. The new NTC resistor has to be installed in the exact reversed order.

12.2.5 Siphoning basin / water selector

12.2.5.1 Exchanging the siphoning basin / water selector

The siphoning basin provides the water selector with hot water.

The water selector provides the brewer with hot water, or lets the hot water flow out of the hot water outlet.

Possible defects:

1. The light sensor is defective.
2. The connecting wire connecting the light sensor is loose or defective.
3. The water–selector drive has broken down.

WARNING

Δ Parts of the interior of the machine may be very hot. Allow the machine to cool down sufficiently.

- Take the power off the machine by pulling the plug from the socket.
- Take the pressure off the water system by turning the tap off at the water connection point.
- Drain the water system (§12.2.1).
- Remove the back plate from the machine after unscrewing the two plate screws

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- Remove the drip–tray.
- Open the door and the flap.
- Take the ingredient container from the machine.
- Disconnect the hose to the flow boiler.
- Disconnect the three hoses that are connected to the water selector.
- Unscrew the siphoning basin / water selector by unscrewing the three screws.

CAUTION!

– Once the water selector is disconnected, the light sensor is also disconnected. They are fixed simultaneously, with the screw at the bottom.

- Take the water selector from the machine and remove the hosing.

The water selector is completely disassembled now, and may be descaled or replaced. The new water selector has to be installed in the exact reversed order.

12.2.5.2 Descaling of the water selector

WARNING

Δ Always wear gloves and protective facial gear during the descaling procedure.

- Disconnect the water selector (§12.2.5.1).
- Dissolve 100 g **Renegite** in half a litre of hot water.
- Pour the descaling solution into a bucket.
- Place the water selector in the bucket with descaling solution and make sure it is completely immersed.
- Leave the water selector to soak in the descaling solution for approximately 15 minutes.
- Take the water selector from the descaling solution.
- Thoroughly rinse the water selector with clean water.
- Dry the water selector.
- Reassemble the water selector.

The water selector may now be reinstalled into the machine. The water selector has to be installed in the exact reversed order of disassembly.

12.2.6 Exchanging the water selector motor

TIP

– See also the exploded view §10.4.

The water selector motor positions the arm of the water selector.

WARNING

Δ Parts of the interior of the machine may be very hot. Allow the machine to cool down sufficiently.

- Take the power off the machine by pulling the plug from the socket.
- Take the pressure off the water system by turning the tap off at the water connection point.
- Drain the water system (§12.2.1).
- Unscrew the two screws with which the back plate is fastened and remove the back plate.
- Remove the drip–tray.
- Open the door and the flap.
- Take the ingredient container from the machine.
- Disconnect the hose to the flow boiler.
- Disconnect the three hoses that are connected to the water selector.
- Unscrew the siphoning basin / water selector by unscrewing the three screws.
- Unscrew the motor by unscrewing the two screws at the front, with which it is fastened.
- Disconnect the wiring.

The motor is completely disassembled now, and may be replaced. The new motor has to be installed in the exact reversed order.

CAUTION!

The wiring to the drive motor has to be properly connected:
the red wire to the + (plus) connection and the black wire to the – (minus) connection.

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12.2.7 Exchanging the light sensor

TIP

– See also the exploded view §10.5.

The light sensor checks the position of the water selector. When the water selector is in the correct position, the light sensor will pass on a signal to the operating print, so that the selected process may be performed.

WARNING

Δ Parts of the interior of the machine may be very hot. Allow the machine to cool down sufficiently.

- Take the power off the machine by pulling the plug from the socket.
- Take the pressure off the water system by turning the tap off at the water connection point.
- Drain the water system (§12.2.1).
- Unscrew the two screws with which the back plate is fastened and remove the back plate.
- Remove the drip–tray.
- Open the door and the flap.
- Take the ingredient container from the machine.
- Unscrew the water selector by unscrewing the three screws.
- Tilt the water selector to the back slightly. This allows the light sensor to be taken out, because it has become disconnected by unscrewing the screw at the bottom.
- Disconnect the light sensor and take the light sensor from the machine.

The light sensor is completely disassembled now, and may be replaced. The new light sensor has to be installed in the exact reversed order.

TIP

– The light sensor contains a notch that should drop in a hole in the plate.The light sensor contains a notch that should drop in a hole in the plate.

12.2.8 Exchanging the connecting wire to the light sensor

The light sensor is connected to the operating print with a connecting wire.

WARNING

Δ Parts of the interior of the machine may be very hot. Allow the machine to cool down sufficiently.

- Take the power off the machine by pulling the plug from the socket.
- Take the pressure off the water system by turning the tap off at the water connection point.
- Drain the water system (§12.2.1).
- Unscrew the two screws with which the back plate is fastened and remove the back plate.
- Remove the drip–tray.
- Open the door and the flap.
- Take the ingredient container from the machine.
- Unscrew the water selector by unscrewing the three screws.
- Tilt the water selector to the back slightly. This allows the light sensor to be taken out, because it has become disconnected by unscrewing the screw at the bottom.
- Disconnect the light sensor and take the connecting wire from the machine.
- At the other end, disconnect the connecting wire from the print.
- Take the connecting wire from the cable clamp.

The connecting wire is completely disassembled now, and may be replaced. The new connecting wire has to be installed in the exact reversed order.

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12.3 Mixing system

12.3.1 Exchanging the ingredient container motors

TIP

– See also the exploded view §10.3.

The ingredient container motor drives the worm or spiral and the anti–caking mechanism within the ingredient container.

TIP

– The numbering of the ingredient container and motors can be read behind the ingredient container.

12.3.1.1 Exchanging motor 1

WARNING

Δ Parts of the interior of the machine may be very hot. Allow the machine to cool down sufficiently.

- Take the power off the machine by pulling the plug from the socket.
- Take the pressure off the water system by turning the tap off at the water connection point.
- Drain the water system (§12.2.1).
- Unscrew the two screws with which the back plate is fastened and remove the back plate.
- Open the door and the flap.
- Take the ingredient container from the machine.
- Remove the plug from the pouring opening.
- Unscrew the screw with which the measuring basin is fastened.
- Tilt the measuring basin to the back slightly.
- Disconnect both wires to the motor.
- Unscrew both mounting screws, with which the motor is mounted.
- Take the motor from the machine.

The motor (ingredient container 1) is now completely disassembled and the new motor may now, in reverse order, be installed.

CAUTION!

– The wiring to the drive motor has to be properly connected:
the red wire to the + (plus) connection and the black wire to the – (minus) connection.

12.3.1.2 Exchanging motor 2 or 3

WARNING

Δ Parts of the interior of the machine may be very hot. Allow the machine to cool down sufficiently.

- Take the power off the machine by pulling the plug from the socket.
- Take the pressure off the water system by turning the tap off at the water connection point.
- Drain the water system (§12.2.1).
- Unscrew the two screws with which the back plate is fastened and remove the back plate.
- Open the door and the flap.
- Take the ingredient container from the machine.
- Unscrew the siphoning basin / water selector by unscrewing the three screws.
- Tilt the siphoning basin / water selector to the back slightly.
- Disconnect both wires to the motor.
- Unscrew both mounting screws, with which the motor is mounted.
- Take the motor from the machine.

The motor (ingredient container 2 or 3) is now completely disassembled and the new motor may now, in reverse order, be installed.

CAUTION!

– The wiring to the drive motor has to be properly connected:
the red wire to the + (plus) connection and the black wire to the – (minus) connection.

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12.3.1.3 Exchanging motor 4

WARNING

△ Parts of the interior of the machine may be very hot. Allow the machine to cool down sufficiently.

- Take the power off the machine by pulling the plug from the socket.
- Take the pressure off the water system by turning the tap off at the water connection point.
- Unscrew the two screws with which the back plate is fastened and remove the back plate.
- Open the door and the flap.
- Take the ingredient container from the machine.
- Disconnect both wires to the motor.
- Unscrew both mounting screws, with which the motor is mounted.
- Take the motor from the machine.

The motor (ingredient container 4) is now completely disassembled and the new motor may now, in reverse order, be installed.

CAUTION!

– The wiring to the drive motor has to be properly connected:
the red wire to the + (plus) connection and the black wire to the – (minus) connection.

12.3.2 Exchanging the mixing unit motor

TIP

– See also the exploded view §10.3.

The mixing unit motor drives the mixer.

- Take the power off the machine by pulling the plug from the socket.
- Unscrew the two screws with which the back plate is fastened and remove the back plate.
- Open the door and the flap.
- Disconnect the mixing unit (§5.2.3).
- Disconnect both wires to the motor.
- Unscrew both mounting screws, with which the motor is mounted.
- Take the motor from the machine.

The mixing unit motor is now completely disassembled and the new motor may now, in reverse order, be installed.

CAUTION!

– The wiring to the drive motor has to be properly connected:
the red wire to the + (plus) connection and the black wire to the – (minus) connection.

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12.4 Miscellaneous components

12.4.1 Exchanging the transformer

TIP

– See also the exploded view §10.2.

The transformer reduces the mains voltage to 24 Volts.

WARNING

Δ Parts of the interior of the machine may be very hot. Allow the machine to cool down sufficiently.

- Take the power off the machine by pulling the plug from the socket.
- Unscrew the two screws with which the back plate is fastened and remove the back plate.
- Note down the connections of the wiring.
- Disconnect the plugs.
- Unscrew the screw with which the mounting plate is fastened.
- Take the mounting plate from the machine, so that the mounting nuts can be loosened from the transformer.

The transformeris now completely disassembled and the new transformer may now, in reverse order, be installed.

12.4.2 Exchanging the solid state relay

TIP

– See also the exploded view §10.2.

The solid state relay switches the heating element on and off.

WARNING

Δ Parts of the interior of the machine may be very hot. Allow the machine to cool down sufficiently.

- Take the power off the machine by pulling the plug from the socket.
- Unscrew the two screws with which the back plate is fastened and remove the back plate.
- Note down the connections of the wiring.
- Disconnect the plugs.
- Unscrew the screw with which the mounting plate is fastened.
- Take the mounting plate from the machine, so that the mounting screws can be unscrewed from the solid state relay (incl. conductive plate).

The solid state relay is now disassembled and the new solid state relay (incl. conductive plate) may now, in reverse order, be installed.

CAUTION!

– The wiring to the solid state relay has to be properly connected:
the red wire to the + (plus) connection and the black wire to the – (minus) connection.

12.4.3 Exchanging the exhaust fan motor

TIP

– See also the exploded view §10.2.

The exhaust fans removes the water vapour that collects over the mixing unit.

- Take the power off the machine by pulling the plug from the socket.
- Unscrew the two screws with which the back plate is fastened and remove the back plate.
- Unscrew the two screws with which the side planel is fastened (at the bottom) and remove the back plate.
- Unscrew the blower housing screws.
- Disconnect the wiring of the ventilator from the operating print.
- Take the blower housing from the machine.
- Unscrew the two screws with which blower motor is fastened.

A new fan may now be mounted. The new fan must be installed in the exact reversed order.

CAUTION!

– The wiring to the drive motor has to be properly connected:
the red wire to the + (plus) connection and the black wire to the – (minus) connection.

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13. CORRECTING MALFUNCTIONS

In case of malfunctions first consult the malfunctions tables. If the problem cannot be solved, consult your Bravilor Bonamat dealer.

13.1 Malfunctioning analysis general

LIST OF MALFUNCTIONS		
Symptom:	**Possible cause:**	**Actions:**
1. The machine does not work and there is nothing on the display.	The plug is not connected to the power socket.	Connect the plug to the power socket.
	External fuse has blown.	Reset or replace the external fuse.
	Group is overloaded.	Connect the machine to another group.
	Switch defect.	Replace the switch.
	The internal fuse is defective.	Replace the internal fuse.
	Transformer is defective.	Replace the transformer, see §12.4.1.
	Operating print is defective.	Replace the operating print.
	Keyboard print is defective.	Replace the keyboard print, see §12.1.1.
	The machine has boiled dry, causing the clickson to have been addressed.	Reset the clickson and carry out a general inspection of the whole machine.
2. Sometimes water comes out of the outlet without reason.	Temperature has been set so high that the water starts boiling.	Set the temperature at a lower value, see §6.2.4.
	Leakage at the drive shaft of the mixer in the supporting plate (22.7) because the mixer shaft and the supporting plate are dirty.	Clean the shaft and the supporting plate, see §5.2.3.
	Base plate seal is defective.	Replace the seal or the whole base plate if necessary, see §5.2.3.
3. While tapping a drink, also water comes out of the hot water outlet.	Bush siphon housing water selector is dirty.	Descale the machine, see §7.1.
4. Water spontaneously comes out of the drink outlet and from under the machine.	The electrodes are dirty.	Descale the machine, see §7.1.
	Magnet valve sticks, it should close if the power is switched off.	Replace the magnet valve.
	The operating print is defective.	Replace the operating print.
	There is a leak in one of the hoses.	Replace the hose with the leak.

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LIST OF MALFUNCTIONS		
Symptom:	**Possible cause:**	**Actions:**
5. The machine remains boiling and water keeps running from the outlet.	NTC resistor is loose or defective.	Fasten or replace the NTC resistor, see §12.2.4.
	Operating print is defective.	Replace the operating print.
6. No desired quantity of powder and the mixer motor does not run.	The ingredient container concerned is empty.	Fill the corresponding ingredient container.
	The mixing unit motor is defective.	Replace the mixing unit motor, see §12.3.2.
	The operating print is defective.	Replace the operating print.
7. Lumps in the ingredient outlet.	The fan blade has not been mounted.	Mount the fan blade, see §7.2.
	The fan motor is defective.	Replace the fan motor, see §12.4.3.
	The operating print is defective.	Replace the operating print.
8. The machine restarts the descaling programme at switching on.	The descaling programme has been activated and had not finished yet when the machine was turned off. It will start again at switching on.	Leave the machine on and let the descaling programme run.
		Interrupt the descaling programme.
	Keyboard print is defective.	Replace the keyboard print, see §12.1.1.
9. Drink comes out of the fan.	The outlet is blocked.	Clean the outlet.

13.2 Display messages and their meanings

DISPLAY MESSAGES		
	Possible cause:	**Actions:**
Error 1	Tap is closed.	Open the tap.
	Water hose is twisted.	Take the twist out of the hose.
	No pressure in the water system.	Check other draw–off points in the building for pressure and investigate the cause.
Error 2	Leak in the water system.	Replace the hose with the leak.
Error 3	Temperature sensor in the machine is defect.	Fasten or replace the NTC resistor, see §12.2.4.
Error 4	Temperature sensor or boiling safety device has activated itself.	Reset the clickson or replace the NTC resistor (§12.2.4). Investigate the cause.
Error 5	N/A to this application.	N/A to this application.
Error 6	Photoelectric cell defect.	Replace the light sensor, see §12.2.7.
	Wear or breach of a selector component.	Replace the water selector, see §12.2.5.1.

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14. DESCRIPTION SPARE PARTS

Item number	Code	Description
6.000.205.050	S	Connection tube 1,20 meter
6.000.229.007	RS	Water selector assy + bush siphon housing
6.001.001.001	S	Nut M3
6.001.001.003	S	Nut M3 (10 pcs)
6.001.003.007	S	Cylinderhead bolt M4x8 (10 pcs)
6.001.071.001	S	Spring ring M3 (10 pcs)
6.001.071.002	S	Spring ring M4 (10 pcs)
6.001.071.003	S	Spring ring M5 (10 pcs)
6.001.079.003	S	Tube clamp 15.6 mm (5 pcs)
6.001.086.012	S	Screw torx15 3.5x10 (10 pcs)
6.001.132.103	S	Pt screw (10 pcs)
6.001.134.004	S	Pt screw K30x10 (10 pcs)
6.001.134.005	S	Pt screw K35x20 (10 pcs)
6.003.012.012	S	Connection cord (CH)
6.003.012.037	S	Connection cord 3x1mm (STA)
6.003.012.057	S	Connection cord (DK)
6.003.012.060	S	Connection cord 3x1mm (STD)
6.003.012.115	S	Connection cord 1,565 (TWN)
6.003.012.118	S	Connection cord (GB)
6.004.001.078	RS	Switch Techno
6.004.011.069	RS	Transformer 230V/38VA
6.004.020.008	S	RC Combination
6.004.024.001	RS	Relay solid state 230V/25A
6.004.025.001	S	Ferrous perle
6.004.026.001	S	Light sensor
6.005.011.014	RS	Fuse 1,6A slow 5x20 (10 pcs)
6.006.001.101	S	Cord inlet
6.006.001.107	S	Cord inlet with pullrelief (TWN)
6.006.002.018	S	Cap 10,5 mm
6.006.002.066	S	Inlet busch 17,4 mm
6.006.010.078	S	Tool for springing wire 10 mm
6.014.004.017	RS	Keys
6.014.004.049	S	Lock incl. keys + secure clamp
6.016.001.070	RS	Magnetic valve 2l/min. 24V DC

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Item number	Code	Description
6.016.008.064	S	High temperature safety trip switch 115°C
6.016.018.023	S	Sieve
6.017.002.007	RS	Fan motor 24V
6.019.033.005	RS	Tube 13,5 x 9,5
6.019.033.014	RS	Tube 15,5 x 9,5
6.019.033.019	RS	Tube 9,0 x 14,0
6.030.011.001	S	Support pillar motor
6.030.013.001	RS	Motor mixer plate
6.030.014.001	S	Mixer
6.030.024.001	S	Mixing beaker
6.030.028.001	RS	Conducting plate solid state
6.030.030.000	RS	Motor mixer complete
6.030.036.001	S	Ingredient container narrow (67) spiral
6.030.037.001	S	Ingredient container narrow (67)
6.030.054.001	RS	Ingredient container motor 90 rpm S
6.030.056.001	RS	Motor water selector
6.030.070.001	RS	Ingredient container motor 160 rpm S
6.030.070.002	RS	Ingredient container motor 160 rpm U
6.030.071.001	RS	Mixing chamber
6.030.071.006	S	Condens reservoir XL
6.030.072.001	S	Drive clutch Ingredient container/motor
6.030.072.002	S	Worm (plastic)
6.030.072.003	S	Lid ingredient container (67)
6.030.072.004	S	Fitting piece clutch ingredient container
6.030.072.005	S	Nut ingredient container (NSF)
6.030.072.006	S	Outlet ingredient container
6.030.072.009	S	Agitator
6.030.072.010	S	Outlet 85mm long (left)
6.030.072.011	RS	Outlet 85mm (right)
6.202.846.001	S	Descaling cap
6.202.848.001	S	Nut for magnetvalve
6.229.014.001	S	Hinge
6.229.028.001	RS	Pipe flow boiler
6.229.029.001	RS	Gasket flow boiler
6.229.032.001	S	Evacuation hose

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Item number	Code	Description
6.229.033.001	S	Nipple evacuation tube
6.229.099.000	RS	Keyboard
6.229.100.000	RS	Print 24V STD XL
6.229.108.001	S	Outlet
6.229.109.001	S	Key Bolero XL
6.229.110.001	S	Guard printboard
6.229.113.001	S	Window Bolero XL
6.229.114.001	S	Blower housing
6.229.116.001	S	Drip–tray float
6.229.118.001	S	Siphon housing water selector
6.229.119.001	S	housing water selector
6.229.120.001	S	Positioning wheel
6.229.121.001	S	Outlet water selector
6.229.140.001	S	Base water selector
6.229.147.001	S	Outletpart hot water
6.229.148.001	RS	Siphon hose Bolero XL
6.229.152.000	S	Lid watertank + electrodes
6.229.153.001	S	Watertank
6.229.157.001	RS	Outlettube hot water
6.229.159.000	RS	Flowboiler Bolero XL
6.229.162.000	RS	Tube outlet XL 250mm
6.229.164.000	RS	Overflow hose XL
6.229.165.001	RS	Protection foil printboard XL
6.229.169.001	S	Grid blower
6.229.170.001	S	Rotor blower
6.229.181.000	S	Siphon housing water selector + bush
6.229.181.001	S	Bush siphon housing water selector
6.229.183.001	RS	Evacuation hose XL
6.229.184.001	RS	Tube Bolero XL
6.229.188.000	RS	Tube outlet XL 231mm
6.236.188.000	RS	Temperature sensor assy
6.401.003.001	S	Foot (1 pc)
6.401.004.001	S	Insert foot (1 pc)
6.402.085.001	S	Nipple overflow

S = Spare parts
RS = Recommended spare parts

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15. SPECIAL CODES

15.1 Resetting the daycounters to zero

- Select any drink with one of the selection buttons.
- Keep the button pressed down during 5 seconds.

The counter for ***all*** drinks is reset to zero for cups, mugs, half jugs and whole jugs.

15.2 Resetting the total counters to zero

- Press the programming button (18.2) to start the programming.
- Press any key and keep the button pressed down during 5 seconds.

The total counter for ***all*** drinks is reset to zero for cups, mugs, half jugs and whole jugs.

15.3 Interrupt the descaling programm

– If the descaling has started in the meantime, then push **longer than 10 seconds** on the setting key (4.13) to stop the descaling programme.

WARNING

Δ Stop the descaling programme **never** when you have already poured descaler into the machine!

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16. CONSUMABLE ITEMS AND ACCESSORIES

16.1 Recommended consumable items

Description	Ordering number	Quantity
Descaler (RENEGITE)	7.190.101.103 7.190.103.103 7.190.102.101	48 x 50 gr. 40 x 100 gr. 6 x 1 kg.

16.2 Accessories

16.2.1 Raising feet

Set of extra feet to raise the apparatus **2 cm** so that larger cups or cans can be placed under the drink outflow. Now the drip tray is standing loose in front of the machine.

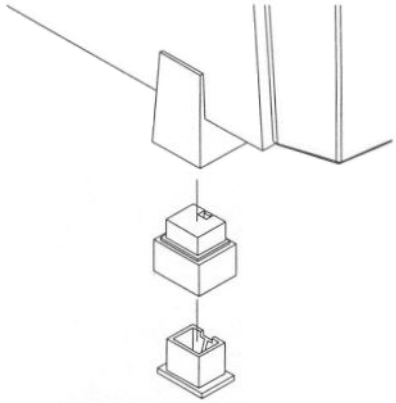

Fig. 19 Raising foot

Ordering number: 7.270.201.101 (set of 4 pieces)

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17. MODIFICATIONS

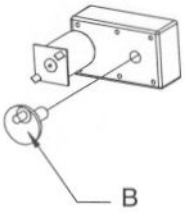
17.1 Assembly of the water selector bracket

A (1x)

B (1x)

C (3x)

1)



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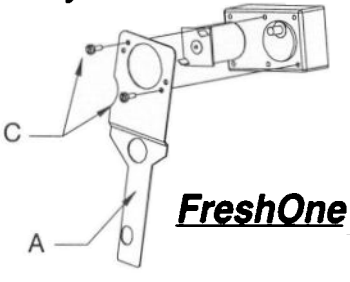
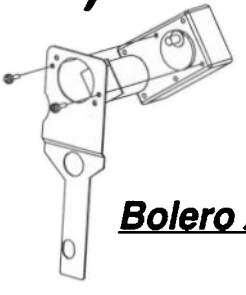


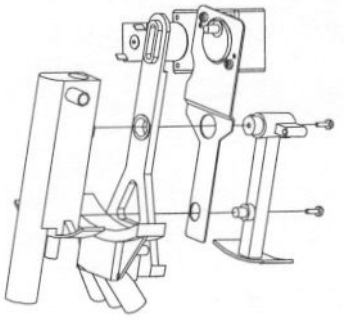
FreshOne

2b)



Bolero XL

3)



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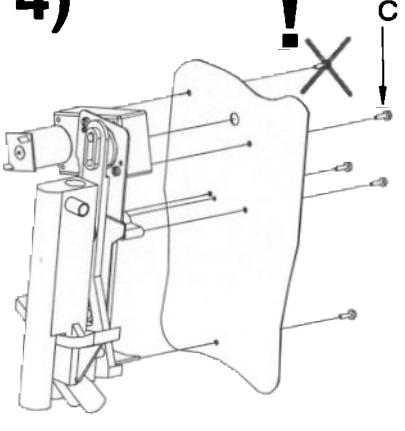

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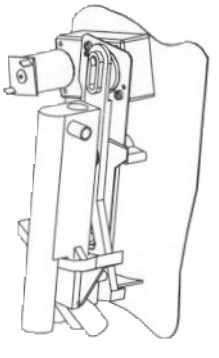

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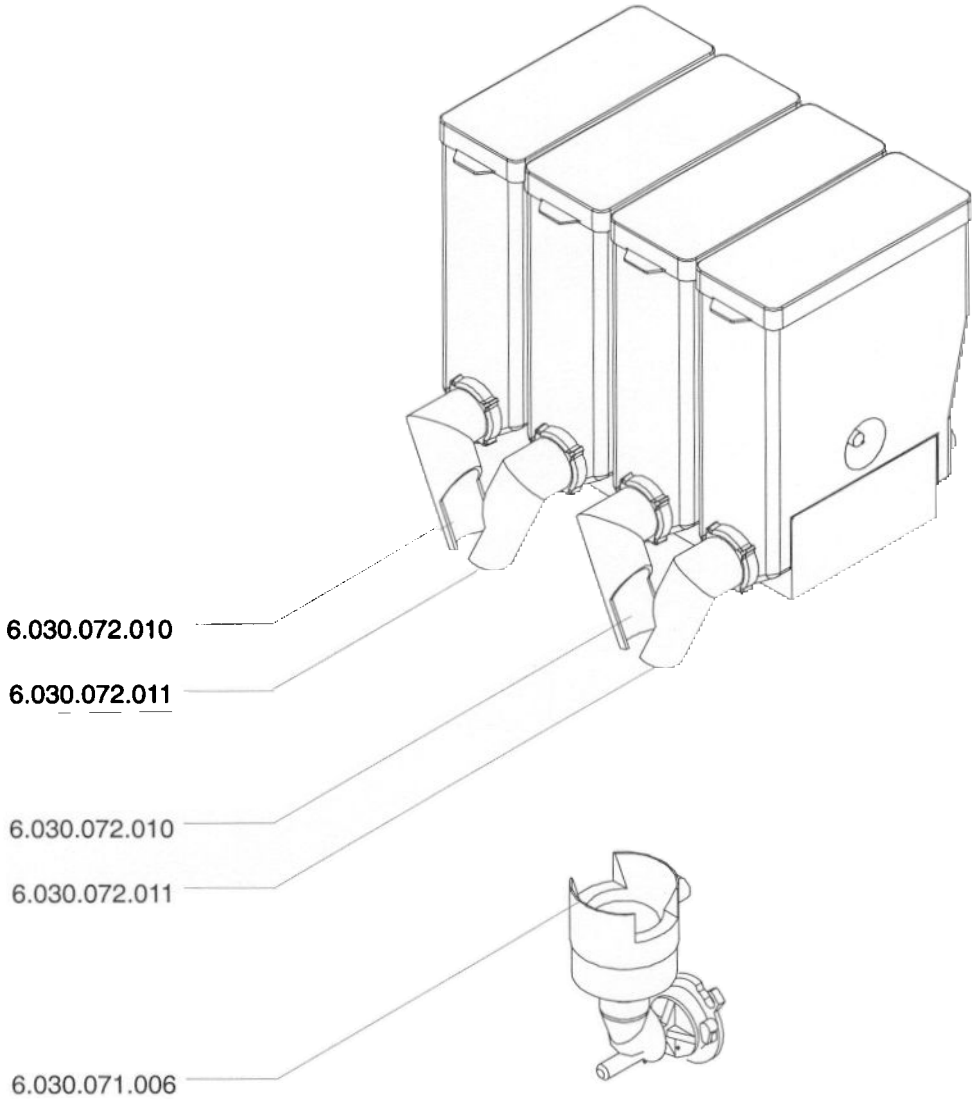
17.2 Condens reservoir and outlet



Please note:

- If you order the 6.030.071.006 instead of the 6.030.007.001, you have to replace the outlets as well.

	GB	FR	DE	NL	SE	NO	FI	DK	ES	PT	IT
1.	Topping	Nappage	Topping	Topping	Topping	Topping	Topping	Topping	Cubierta	Cobertura	Latte in polvere
2.	Cocoa	Cacao	Kakao	Choco	Choklad	Sjokolade	Kaakao	Chokolade	Cacao	Chocolate	Cioccolata
3.	Regular coffee	Café normal	normaler Kaffee	Koffie normaal	Kaffe normal	Kaffe normal	Kahvi	Kaffe normal	Café normal	Café normal	Caffè normal
4.	Espresso coffee	Café Expresso	Espresso	Espresso koffie	Kaffe espresso	Kaffe espresso	Espresso	Kaffe espresso	Café Expresso	Café Expresso	Caffè Espresso

Table/Tableau/Tabelle/Tabel/Tabell/Taulukko/Tabla/Tabela/Tabella 3

GB / FR / DE / ES					(Uuuu)	(uUuu)	(uuUu)	(uuuU)
coffee / café long / Kaffee / café	120 cc	150 cc	360 cc	720 cc			11 %	
	 cc	 cc	 cc	 cc			..... %	
café crème / café court / Café Crème / café crème	120 cc	150 cc					11 %	
	 cc	 cc					..... %	
café au lait / café au lait / Café Au Lait / café con leche	120 cc	150 cc			28 %		31 %	
	 cc	 cc			..... %		..... %	
cappuccino / cappucino / Cappuccino / capuchino	120 cc	150 cc			49 %			35 %
	 cc	 cc			..... %			..... %
espresso / espresso / Espresso / café exprés	80 cc	120 cc						17 %
	 cc	 cc						..... %
double espresso / double espresso / Espresso doppelt / café exprés doble	80 cc	120 cc						28 %
	 cc	 cc						..... %
wiener melange / viennois / Wiener Melange / café de Viena	120 cc	150 cc			72 %	34 %	30 %	
	 cc	 cc			..... %	..... %	..... %	
hot chocolate / chocolat chaud / Trinkschokolade / chocolate	120 cc	150 cc	240 cc	480 cc	14 %	14 %		
	 cc	 cc	 cc	 cc	..... %	..... %		
espreschoc / mocaccino / Espressochoc / Expreschoc	120 cc	150 cc			57 %	45 %		70 %
	 cc	 cc			..... %	..... %		..... %
hot water / eau chaude / Heißwasser / agua caliente	120 cc	150 cc	360 cc	720 cc				
	 cc	 cc	 cc	 cc				

Table/Tableau/Tabelle/Tabel/Tabell/Taulukko/Tabla/Tabela/Tabella 4

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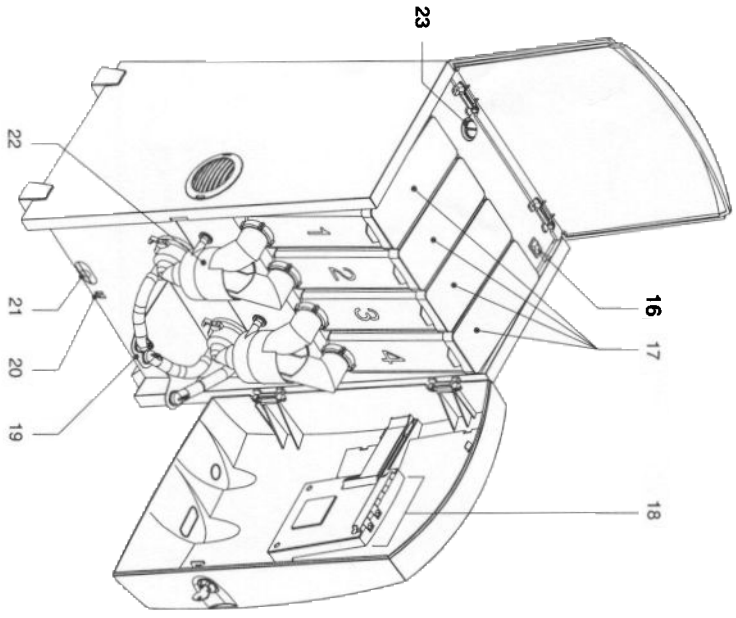
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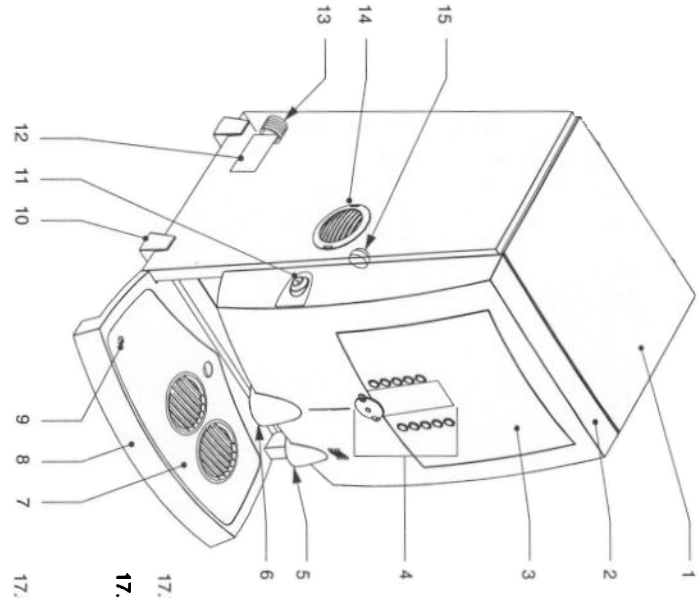
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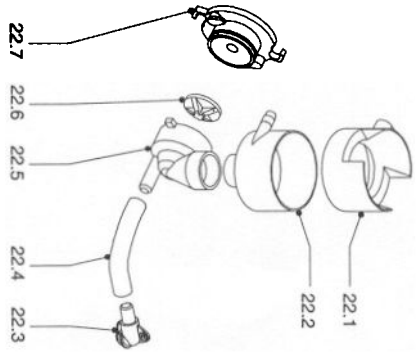
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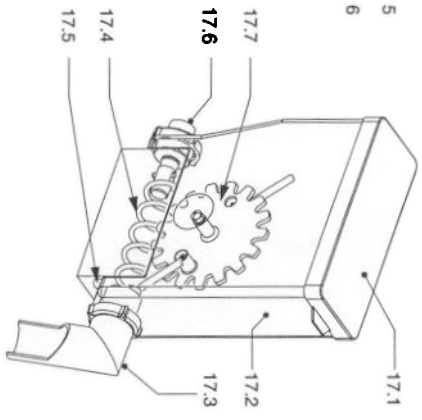
22.1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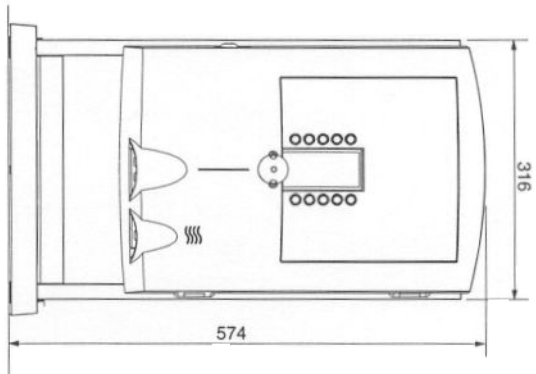
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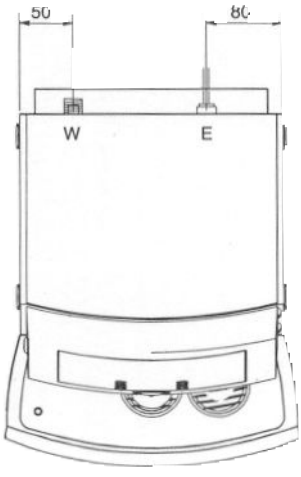
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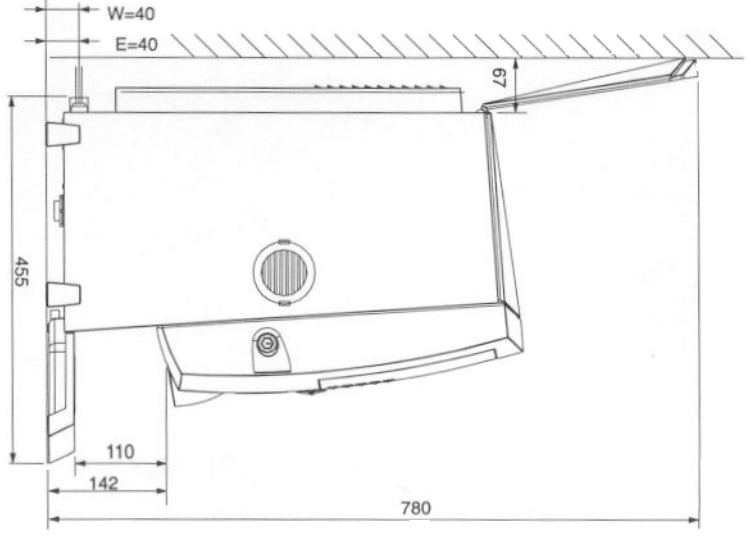
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E=40
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780